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CHAMBERS'S

PAPERS FOR THE PEOPLE.

WATER SUPPLY OF TOWNS.

WATER, in consequence of its intimate connection with so many of the tastes, conveniences, and necessities of life, becomes a subject of universal and never-failing interest. Its position in the landscape as sea, lake, and running stream, affects the sense of beauty; to the eye of the naturalist engaged in classifying and describing the contents of the globe, it is a substance having numerous properties and relations; it is a grand example of the mechanical laws and gravitating power impressed upon all material things; and as an agent in the economy of the world, it enters largely into the operations of production and change. It is the highway of the world, the cheap defence of nations, the boundary of possessions, the element of existence to an immense living population. Lastly, it is an indispensable requisite and manifold convenience of the every-day life of human beings: alike to the uncivilised and civilised, to the roaming tribes of the wild, and the settled inhabitants of our crowded cities.

The uses of water in daily life lead to the adoption of means for providing it in proper quantity, quality, and readiness to every place of human habitation; and among the various arts that make up our civilisation, this has a leading position of importance. Of late years, great improvements have been introduced into the department of the public water supply, and efforts continue to be made towards still farther improvements. Our object in the present Paper is to touch upon the chief points of information connected with the sources and qualities of water, and the public arrangements for the supply of town populations—restricting ourselves solely to the condition and requirements of our own country.

SOURCES OF WATER SUPPLY.

The great masses of liquid constituting the seas and oceans of the globe, are unfit for many of the purposes of water, on account of the excess of soluble matter they contain, dissolved out of the solid crust of the earth, and concentrated by the evaporation of ages. Sea water, besides its principal ingredient, common salt, contains salts of lime and magnesia in considerable amount, and cannot be used for drinking, cooking, or washing. But the process of evaporation or distillation constantly going on over the whole liquid surface of our planet, yields to the atmosphere a pure supply—and this descending as rain, may be collected in situations where it is not permitted to acquire the disqualifying ingredients of the ocean liquor. Sometimes a water contracts impurities at one part of its course, and is freed of them at another part: the connection with the solid earth is not wholly a cause of deterioration. The chief sources of supply may be described as surface-collection, rivers, and springs:—

Surface Collection.

Water descending in rain may be ranked as a species of distilled water, and if collected on clean surfaces, it will be the purest which nature can supply. In its descent through the atmosphere, it brings with it a quantity of common air, together with any other gases that may be aloft, and also the fine particles of dust raised by the wind, and continually present in the lower stratum of the aerial ocean. A certain small amount of impurity is thus contracted before it reaches the ground; but what is of still more consequence, water in this condition has an intense attraction for the saline and other soluble matters which it finds on the surface. What are termed organic impurities, or the corrupting ingredients derived from vegetable and animal bodies, living or dead, are taken up in large quantities by rain water, so that a very short time suffices to taint the fresh-fallen shower. Hence the water caught on house-tops, although admirably adapted for washing, is not usually pleasant for drinking: part of the unfitness, however, arises from its wanting the proper degree of coolness. Rain water collected on shipboard is noted for its tendency to rapid putrefaction. Surface water, therefore, with its freedom from saline ingredients, has the disadvantage of possessing a strong affinity for organic impurities, these being diffused over every surface in the neighbourhood of living beings.

But surface water, considered as a source of supply, is not the same as the rain water gathered from house-tops. If we resort to a barren district of rock or sand, destitute of vegetation, and remote from the pollution of towns, we may obtain water such that, notwithstanding the solvent power of the fresh-fallen rain, hardly any organic impurity has entered into its composition. Accordingly, water in this condition may be a highly proper source of supply. It cannot be said of any surface beforehand that it is eligible as a collecting-ground; very careful examination of the water actually collected, especially in the hot months of summer and autumn, is required to determine this point. The grand advantage of this mode of supply is—the absence of salts in solution, rendering the water soft in,

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respect of washing, and free from any peculiar taste of soda, magnesia, iron, or other mineral impregnation. The disadvantages are—first and principally, the presence of organic impurities; next, the necessity of impounding reservoirs so large as not only to secure that the excess of the wet months may avail for the deficiency of the dry months, but even that the excess of a wet year may be transferred for the supply of an unusually dry year; and lastly, the impossibility of obtaining water sufficiently cool for drinking in the warm season. Notwithstanding these general defects, it happens in various places that a surface supply is the best that can be had, and is, on the whole, satisfactory.

Rivers.

The water obtained from running streams is in part what has flowed immediately from the surface, and in part the water of springs, shallow or deep. In any case, a considerable amount of contact with the ground has been permitted, and in consequence saline matter is liable to be dissolved in a greater or less degree. The extent of the impregnation, as well as the kind of material dissolved, will depend on the rocks and strata of the river basin. Water flowing from granite rock, as the river Dee in Aberdeenshire, has a very small quantity of dissolved salts. Slate formations are also favourable to the purity of the water flowing over them. Sandstone is very inferior in this respect, while the limestone and chalk covering large districts of the country impart a nearly constant amount of lime-salt to all the running streams. The lime is not unfrequently accompanied by magnesia; and when this last substance is present in great quantity, it marks out a distinct and peculiar species of water.

River waters, besides the qualities they derive from their primitive sources, are apt to contain mud and matters in suspension, and are thus deficient in the clearness and transparency so essential to the satisfaction of the eye in a drinking water. The agitation which a running river undergoes prevents stagnation and such decay of organic matter, sometimes with an offensive smell, as occurs in canals; but it also deprives the water of some air and free carbonic acid, which renders it, according to the opinion of many, less fresh to the taste. Moreover, the water partakes of the extremes of summer and winter temperature, and in the hot months can hardly be free of organic impurities and insects. But, on the other hand, the supply from one of our large rivers is boundless and unfailing; and it conveys the surface drainage and spring effusions of a large tract of country without incurring any trouble or expense as to the original sources. With far more of mineral impurity than surface water, river water will usually present less of vegetable and animal impurity, in consequence of the tendency of the mineral impurity to increase, while the organic impurities diminish, by time and exposure.

Springs.

When water falling on the surface of the ground sinks into the soil, descending downward by slow percolation till it encounters an impervious bottom, and rises up at some convenient opening by the force of hydrostatic pressure, the outgush is called a spring. Beds of sand and gravel, as well as the surface-coating of soil, allow a free passage to water; but its course

is as completely checked by a bed of clay as by the solid rock. Hence the course of the percolation follows the direction of the porous beds. It may happen that water, in pursuing a lateral direction in the pervious strata, passes beneath as well as above an impervious layer; and between the two it will be hemmed in with the whole force of the downward pressure at the spot where it enters the soil. If there be no outlet, the pervious stratum thus enclosed will be saturated and choked, and the water must either find some other course, or lie stagnant on the surface; but if an opening occurs anywhere in the upper enclosing bed, through it will the water rush up with a force determined by the difference of level between the mouth of the opening and the surface where the rain first enters. Springs are often formed artificially by boring in this way through a bed of clay or rock, in order to tap a deep porous layer charged with water, the result of steady percolation from some distant surface. Sometimes the passage of the liquid is by fissures and crevices in the rocks—at other times by compact beds of shingle, sand, or gravel. The gravitating force carries it downward to the lowest depths that it can reach, and again upward so as to find one level in every direction. Hence water falling on high grounds, and entering the soil, is sure to emerge somewhere on the low grounds, perhaps with a considerable pressure. If we could conceive a mountain formed of a porous top and impervious side, so as to retain the water while it sinks into the mass—and if this impervious layer were to cease at the foot, the water would pass down as in a siphon, and burst out with energy at the termination of the layer in question. But this upper stratum might be conceived to extend for miles along the plain in unbroken continuance, in which case the mountain water would have no opportunity of showing itself; till at last some interruption or cleft, or some excavation by the hand of man, occurs to relieve the pent-up waters; and out they flow with the high pressure still upon them, nobody being able to guess where they had their origin. The conditions necessary to the occurrence of springs are therefore:—1st, The rain falling on the higher grounds must find admission into the interior to some considerable depth; 2^d, By the force of the pressure from above it must pass in lateral directions—in other words, it must find pervious beds or openings right and left; 3^d, It must become hemmed in above by some stratum that does not give an easy passage, and therefore concentrates the pressure on the places where openings occur; and 4th, In the lower grounds where it has descended beneath an obstructing bed, there must be interruptions, fissures, or pervious strata, whereby it can rise to the surface again. Mountain districts, and a varied and irregular stratification of alternating pervious and impervious layers, are favourable to the concentration of water and its discharge in the form of springs; while, on the other hand, flat regions and uniform coverings of sand and gravel render springs impossible. In this last case there would be a uniform soakage of the soil, varied only by such shallow pools, lakes, and rivulets as the inequality of the surface could give rise to. A compact rocky formation, without fissures or other communication with the subterranean depths, would likewise be devoid of springs; the water prohibited from filtering its way into the interior would pass down at once over the surface to seek the lowest level that it could find.

The slow percolation through the interstices of a gravelly layer, or by

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the crevices of rocks, is the cause of the mineral impurities which distinguish the water of springs. At the same time, this slow action most effectually rids the water of any organic impurities contracted at the surface. Air, too, is largely taken in along with the saline matter of the rocks, and the temperature of the interior is imparted to the whole mass; whence it happens that springs of moderate depth represent the average temperature of a climate. Very deep springs are of a higher temperature. The qualities that recommend water to the eye and to the palate belong in a pre-eminent degree to spring water: it is clear, sparkling, and cool, and is totally free from the offensive taint so common in all other waters, as well as devoid of the animalculæ generated by organic impurity.

From this brief sketch of the principal sources of supply we now pass to a more minute description of the various qualities of waters.

QUALITY OF WATER.

Quality in water has reference to one or other of the following points:—
1st, The presence or absence of mud or other solid matters in suspension;
2^d, Salts and mineral matters in solution, which do not affect the clearness or transparency of the liquid. Some of these salts cause the property commonly known by the name of *hardness*; 3^d, Organic matter, or the products of vegetable and animal life; 4th, The presence of atmospheric air and carbonic acid, and also of certain offensive gases, the result of the decomposition of organic matter; and 5th, The temperature.

Solid Impurities.

When running water comes upon a loose bottom, it carries the finer particles along with it, and the quicker its flow the larger the pieces that it can keep afloat. If the water comes into a position of perfect stillness, the matters thus floated gradually sink to the bottom again—the heaviest first, and the others in succession. Should any portion consist of fine impalpable dust, such as is raised by the wind, and floats in the stillest air, the subsidence is very slow indeed; days, or even weeks, may not bring about a perfect clearance. The particles gathered from beds of clay are the most difficult to separate from water by mere subsidence; either they are in a state of greater fineness than particles of lime, silica, or other minerals, or else the water has a more than ordinary adhesiveness to the material of clay. Whatever be the reason, the agitation of water in contact with a clay surface imparts a drab or rhubarb colour, arising from the diffusion of fine solid particles; and a river once contaminated in this way seems never to become clear again. The stagnation of streams in very flat districts, such as the fen countries of England, contributes to their defilement in this particular. A rapid current sweeps away all the loose particles lying in its bed, and leaves nothing at last but rock or pebbles too heavy to be moved; hence it is only by wearing off the hard surface remaining that quick-flowing streams make themselves muddy. Rivers draining cultivated land generally contain a portion of the loose soil, especially after heavy rains. The water most free from solid impurity is that derived from springs or which flows over barren rocks.

The earthy matters of soils and rocks are not the only solid impurities that may occur in water. In some circumstances iron and lead may be found in suspension. Vegetable and animal matter, not to speak of live insects, may likewise be present in solid specks. The drainage of a town is a compound of salts dissolved, and of solid matters suspended, in the current, both classes of substances being useful as manure.

The methods of clearing water from mud and matters in suspension are subsidence and filtration. The method of subsidence proceeds on the supposition that the solid earthy particles are heavier than water, and will gradually sink to the bottom when the mass is perfectly still. For the grosser kinds of mud this is quite true, but the fine, impalpable, drab-coloured clay is not displaced in this way. The other method, filtration, we shall describe in a subsequent section.

To separate clay powder from water, the practice has long been resorted to in India and China of putting in a piece of alum, which seems to act by the property it has of curdling some organic substances, and of causing others to adhere as dyes to such solid matters as may happen to be in the water. This is the oldest known device for purifying water by anything approaching to a chemical process.

Dissolved Impurities.

The impregnations of salts and mineral ingredients gathered up from the earth's surface are very numerous. The following statement by Professor Clark of Aberdeen, given in evidence before the Health of Towns Commission, contains an enumeration of the principal impurities of this class:—

Being asked, 'You have stated that the water usually contains saline impurities; of what do those consist?' He stated in reply—'The most material are earthy salts; that is, salts of lime and salts of magnesia. I call the earthy salts the most material, because it is the presence of earthy salts that gives rise to hardness. There is also usually present common salt, and sometimes bicarbonates of soda and potash; but none of these affects the hardness of water. The most important portion of the earthy salts may be reckoned the bicarbonate of lime. The whole salts present, whether earthy or not, may be distinguished into two parts—according as they are neutral to test paper, or alkaline to test paper—the neutral portion, and the unneutralised portion. The unneutralised portion consists entirely of bicarbonates, those of lime and magnesia, which are the earthy bicarbonates, and in some waters those of potash and soda, which are the alkaline bicarbonates. The neutral portion consists of the neutral salts of earths and alkalies—such as gypsum and common salt. Salts of iron occur also occasionally in waters that are in use. Such salts impart an inky taste to the water, and they give a yellowish tint to linen that is washed by the water containing them. They, too, produce hardness.'

Of the salts thus enumerated the foremost are salts of lime. The bicarbonate of lime is the chief example of what Professor Clark terms the *unneutralised* division; this bicarbonate is derived from chalk or limestone, and may be considered as chalk (carbonate of lime) with a double dose of carbonic acid, which second dose changes the chalk from an insoluble salt into a soluble one. The waters having bicarbonate of lime for their chief impurity are familiarly spoken of as the 'chalk waters.'

Of the *neutral* salts of lime, the chief instance is sulphate of lime or gypsum. The important distinction between the bicarbonate and the sulphate lies in the fact, that the first, the bicarbonate, may be in great part precipitated by boiling; whereas the second, the sulphate, cannot be so precipitated. The hardening quality of the one is therefore curable by a simple process, whereas the other is not affected by the same process. Of the two kinds of impurities, the chalk is much less objectionable than the gypsum. The river Thames and its tributaries, and the shallow springs of the London basin, are chalk waters, and all of them may lose upwards of two-thirds of their chalk and of their hardness by prolonged boiling.

The salts of lime are chiefly injurious on account of their giving to water the well-known quality termed hardness, of which we shall afterwards speak. No bad effect on the human system can with certainty be attributed to lime occurring by itself in any water; but the notion sometimes entertained, that this salt is either indispensable or salutary in the water taken into the animal body, is without the smallest foundation.

The other class of salts coming under the head of earthy salts are salts of *magnesia*. Magnesia is apt to be present in small quantity along with chalk and other salts of lime; when it exists in any large proportion it determines a very distinct species of water, of which examples have been found in Leicester and Birmingham. Magnesia does not produce hardness with the same regularity and precision as lime does; in the company of lime it sometimes does not occasion the consumption of more soap, but only causes the soap-suds to curdle. This curdling of the soap renders such waters particularly unfit for the washing of clothes.

Although there is the same uncertainty as to the positive effects of magnesian waters on the animal system that there is in respect to lime waters, yet as salts of magnesia in large doses are known to act as powerful medicines, it is barely possible that it may have some medicinal influence, but probably of a different kind, in the small doses occurring in an ordinary magnesian water. A recent observation by Graves, a foreign physician, that magnesia is the characteristic ingredient of waters in the districts where the diseases called *créténisme* and *goître* (wens) abound, is worthy of attention. The surmise has sometimes been made, that certain waters supplied to towns, containing a large amount of saline matter in solution, have been instrumental in fostering diseases among the population, but the fact has not been ascertained with rigorous certainty, still less has the injurious ingredients been discriminated from others not injurious. Nevertheless enough is known to render all waters abounding in lime, magnesia, or other salts, highly undesirable in the supply of towns.

Of salts of *soda* and *potash* the principal is common salt, or the muriate of soda. Sulphate of soda—Glauber's salt—occurs along with the muriate in the salt springs of watering-places as well as in the sea waters. None of all these salts have any effect on the hardness. In the case of sea water, which is very hard, the effect is not due to common salt, but to the lime and magnesian salts dissolved in it; were it not for these, sea water would be perfectly suitable for washing, although not for drinking. The high proportion of soda salts contained in some springs unfits them for common use. The salts of the alkalies, soda and potash, as distinguished from the salts of the earths, lime and magnesia, are undoubtedly very active as medicinal agents,

and are therefore objectionable ingredients of water when present in any great amount. The Artesian-well water of London contains a large amount of alkaline salts. As an example—a well 400 feet deep, sunk at the Camden station of the Great Western Railway, is found to contain about forty-two grains per gallon of soda-salts, muriate, carbonate, and sulphate, with hardly a trace of any earthy salt; and the general character of these wells is, to have a small portion of earthy matter, such as lime or magnesia, and a very large portion of soda or other alkaline salts. The water is extremely soft for washing purposes, and well adapted for cookery; but it is doubtful if so great an amount of alkali habitually imbibed be not injurious to the bodily system.

Salts of iron in considerable quantity make what is technically named *chalybeate* waters, and belong to the medicinal class. When the iron exists in the spring as carbonate, which is the most usual case, on exposure to the air it is changed into the peroxide, and falls down in the form of an ochrey precipitate.

Hardness of Water.

The quality of hardness in water is commonly recognised by the difficulty experienced in washing, and by the amount of soap necessary to form a lather. This quality is injurious also in the preparation of food; but its action is most universally felt in washing operations. It occasions an enormous waste of soap, an extra labour in washing, and a corresponding tear and wear of clothes.

The most usual hardening ingredients are the salts of lime. Every lime-salt whatsoever hardens water and destroys soap in proportion to the lime present. Salts of magnesia are hardening salts, but not in a regular proportion to the quantity, there being some irregularities in their action.

Professor Clark has devised a scale of hardness which is now universally employed in the chemical description of waters. The hardening effect that would be produced by one grain of chalk dissolved in a gallon of water is one degree of hardness; in like manner four grains per gallon would produce four degrees of hardness; ten grains ten degrees; and so on. The degrees are expressed in numbers—thus 1°, 4°, 10°, 15°, are one, four, ten, fifteen degrees respectively. When any other salt of lime is the hardening ingredient, the measure is still by grains of chalk; if a certain amount of gypsum be dissolved in water, the effect is not expressed in grains of gypsum, but in the grains of chalk requisite to produce the same hardening effect. An equal quantity of calcium, the metallic base of all the lime-salts, will always produce the same degree of hardness whatever acid it be combined with—that is, whether it be carbonate, sulphate, muriate, or any other combination of lime. Hence it is very easy to calculate the number of grains of any salt which will produce a given degree of hardness; but it is always to be understood that when hardness is caused by any other salt than the carbonate—by gypsum, for instance—the number of degrees does not express the number of grains of that salt per gallon; and on the other hand, if a water were said to possess ten grains per gallon of gypsum, that would not constitute 10° of hardness; the computation would show only 7½°; indeed if 7½ grains of chalk were converted into gypsum, they would produce 10 grains. But in an analysis setting forth a given number of

grains of carbonate of lime, that number would strictly express the degrees on Clark's scale.

The scale of hardness increases with the consumption of soap requisite to form a lather. Professor Clark has made use of this fact in his process of testing for hardness—a process of extreme delicacy. It consists in the employment of a solution of soap of measured strength; and according to the quantity of solution requisite to form a lather of a certain duration is the hardness of the water. By this test the value of a water for washing purposes, and for all other purposes where hardening matter is an objection, can be determined with great ease, and with a precision scarcely equalled by any process in chemistry. The employment of the definite scale of hardness, and of the soap test for measuring its amount, has tended more than any other circumstance to facilitate the determination of proper waters for the supply of towns.

Next to washing, the deleterious consequences of hardness are felt in various culinary operations, and especially in the infusion of tea. It is a fact of universal experience that hard water is unfit for tea; but as yet the only approach to an accurate determination of the effects of different degrees of hardness is seen in the following question contained in Professor Clark's Evidence to the General Board of Health:—

'It is generally admitted that hard water is unfit for the purposes of washing and cooking? With regard to cooking, perhaps the most important material is tea. I have been very desirous of making experiments on waters of known degrees of hardness upon a given average of tea, with the assistance of some gentleman experienced in the tasting of teas for commercial purposes. My health has heretofore prevented me from making any more than merely preliminary experiments. From these it appeared that hard water was very unfit for the purpose of making tea. In making use of a series of waters at 4°, 8°, 12°, 16° of hardness, the strength of the infusion, as manifested by the depth of colour produced, was evidently in a series such that each infusion could be sensibly distinguished from the one next to it, above or below, the hardest water giving the least depth of colour, and the softest water the greatest. At 4° of hardness the infusion was transparent, with no sensible muddiness; at 6° the transparency of the infusion began to be injured; at 12° there was a distinct muddiness; at 16° this muddiness had become very decided; and above 16° it was disgusting. No such muddiness appeared with any of the waters after pouring off the first infusion and making a second. With regard, again, to depth of colour, it is very worthy of remark, that whereas the greatest depth was observed in the first infusion in the softest water, and the least depth in the hardest, now, in the second infusion the same thing was observed again, with this difference, that in the harder waters the depth of colour was proportionally still less; not only absolutely less, as might be expected, but relatively less. In making these experiments, about half an ounce of tea was made use of with a pint of boiling water; so that you will understand the result if you suppose in each of two similar teapots half an ounce of tea be put, and over each a pint of boiling water, but in the one case at 4° of hardness, and in the other case at 16°, the infusion at 4° will turn out much stronger than the infusion at 16°: the infusion at 4° will be transparent; the infusion at 16° will be offensively muddy. But supposing you

pour off the first infusion, and make a second infusion, then the second infusion at 4° will be a little weaker in colour than the first infusion at 4°; while the second infusion at 16° will be of a still proportionally weaker colour than the first infusion at 16°. In short, hard water is bad for a first infusion, still worse for a second. The only way of making an infusion of tea with waters at 8°, 12°, or 16°, equally strong with an infusion by water at 4°, is to increase in each case materially the quantity of tea infused. Sub-carbonate of soda in crystals may be made use of in very small quantities, in order to soften the water, and make it fitter for the purpose of infusing tea; it produces this effect by decomposing the earthy salts present; but if made use of in any proportion beyond above what will exactly decompose the earthy salts present, the excess may indeed deepen the colour of the infusion—by dissolving some coloured vegetable extract, such as pure water would not dissolve—but it will infallibly injure the fine flavour of the tea to all persons not accustomed to the taste of soda in their tea.'

According to M. Soyer—who was requested by the General Board of Health to try the effects of hard and soft water in cooking, and was provided with solutions of known hardness for that purpose—the operation of hard water is prejudicial both to meat and vegetables.

From the foregoing experiments on tea, it will be seen that when water approaches to 8° of hardness, it begins to be decidedly unfavourable to the infusion. It may be stated generally, that for the purposes of washing and cooking a water of less than 6° is soft, but above this point the hardness becomes objectionable. At 8° the water is moderately hard, at 12° it is very hard, at 16° the hardness is excessive, and much above this it is intolerable. It must always be borne in mind, however, that a water reducible to 6° by ordinary boiling is not an extremely objectionable water, even although in its unboiled state it may have as much as 12° or 16° of hardness. But a water such that boiling will not reduce it to 6° may be reckoned as altogether unsuitable for a town supply.

To make these observations more intelligible, we may mention a few instances of known waters with their place in the scale. The water of the Dee at Aberdeen, which is used for the supply of the town, is 1½° of hardness; this is about the greatest softness ever found in a natural water, and is attributable to the granitic character of the river basin. The river Clyde, supplying Glasgow, is 4½°, and may also be reckoned a soft water. The Thames at London, as well as the New River, is about 13°; while many of the tributaries of the Thames rise as high as 16°; but being all chalk waters, they may be materially softened by boiling. Springs from the chalk commonly range from 16° to 18°; but particular springs are to be met with in some parts of the world four or five times as hard, from the presence of bicarbonate of lime. In many parts of the continent hard waters abound; but the testing of waters has not been so much attended to there as in this country. If, however, the hardness of continental waters were as great generally as it is known to be in some districts, a reason would be afforded for the comparatively limited use of tea in continental countries.

The operations of the General Board of Health have led to an extensive examination of the waters of England and Wales, which has yielded the

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following important result, stated in the Board's Report on the Metropolitan Water Supply:—

'We had 424 different specimens of water from different parts of the country tested, and we find that, in respect to hardness, the following are the results:—

- '1. Wells and springs (264 specimens), average hardness, 25°86.
- '2. Rivers and brooks (111 specimens), average hardness, 13°05.
- '3. Land and surface-drainage (49 specimens), average hardness, 4°94.'

It thus appears that in England the hardness of springs in general is excessive; that a very large number of rivers have an injurious and exceptionable amount of hardness; and that surface waters may be collected in a state that is to be considered soft.

Alkalinity of Waters.

All the salts that exist in a water in the form of bicarbonates have an alkaline action when tested by litmus paper. Not the bicarbonates of the alkaline salts merely—those, namely, of soda and potash—but also the bicarbonates of the earths, lime and magnesia, have an alkaline character. The bicarbonate of lime, therefore, which is a cause of hardness, is also a cause of alkalinity. Professor Clark has made an important application of this fact, by introducing an alkaline test, to ascertain whether a lime salt present in a water be a sulphate or a carbonate of lime. The test for hardness, taken by itself, does not show what substance causes the hardening effect, and more especially it fails to point out whether the hardening salt can be precipitated by boiling. But should it be found that a water, whose saline contents are chiefly salts of lime, has an alkalinity as great as its hardness, it is evidently a chalk water, and not a gypsum water. Ten degrees of hardness due to chalk would cause 10° of alkalinity (one degree of alkalinity being what is caused by one grain of chalk dissolved in a gallon of water): 10° of hardness due to gypsum would show no alkalinity. The great use of the alkaline test is to distinguish between the carbonate and the sulphate of lime, or between the curable and the incurable hardness.

In the complete process of testing water introduced by Professor Clark, and employed on all waters tested for the General Board of Health, the hardness and alkalinity are determined in the water first unboiled, and next after boiling for two hours without loss by steam. The results of such an examination leave scarcely any practical point to be desired with reference to the mineral impurities of a water. Not merely is the hardness known, but the cause of it is ascertained, and also the effect of boiling in diminishing its amount. Some chemists are accustomed to ascertain also the total saline matter present by evaporation.

Presence of Lead in Water.

Injurious effects have frequently arisen from the contamination of water with lead, derived from leaden pipes and cisterns. Some kinds of water are known to act powerfully on a leaden surface, and the effect is ascribed by chemists to the carbonic acid contained in the water. Distilled water has a very great power of absorbing carbonic acid, and is remarkable for

wearing down leaden surfaces. Any excess of carbonic acid is sure to bring about a corroding action both on iron and on lead.

Water freely exposed to the air, and containing organic matter, acquires free carbonic acid. Should this water flow over a bed of lime, the carbonic acid will cause carbonate of lime to be dissolved, thereby forming the bicarbonate of lime, or the salt peculiar to chalk waters. In this way the carbonic acid will expend itself, and such a water will not be liable to act on lead. But when no bicarbonate is formed, the acid remains in its free state, and is a source of evil.

A remarkably soft water, obtained from Bagshot Heath, near Windsor, was found to have poisoned some of the Queen's hounds, and brought on painters' colic on one of the huntsmen. On this water Professor Clark has made the following interesting statement to the General Board of Health:—"Through the kindness of Sir James Clark, I obtained a specimen of this water, and in a few days came to the unexpected result that filtration would separate the lead. Thus a very simple practical means for separating lead, wherever it contaminates water, was discovered. This was in the summer of 1843. But the process first came into practical use in spring 1844. At a marine villa of Lord Aberdeen's, some of the servants suffered in health from lead in water derived from pipes. Sand filters were put up under my direction at this villa, and subsequently at Haddo House. On making inquiry recently at his lordship's agent in Aberdeen, I learn that the filters have been in use ever since, and that the waters have been tested from time to time, without any lead having been discovered in them."

The above discovery as to the purification of water from lead depends on the fact, that the lead, although not always perceptible to the eye, is not usually dissolved in the water, but floats as a solid powder, and can therefore be arrested by a filter. In the cases where the lead happens to be dissolved, which are not so frequent, filtration would not remove it.

The accident with the Bagshot water has led to the supposition being taken up that hard waters do not act upon lead, and that the hardness being a minor evil, it should be tolerated, rather than run the risk of being poisoned with soft water. But it is found that soft waters do not act upon lead in proportion to their softness, and that the presence of a large amount of saline matter does not uniformly give exemption from lead. The Aberdeen water, of little more than one degree of hardness, and containing less than $3\frac{1}{2}$ grains of solid matter, is found to have very little action on lead pipes; while waters of much greater mineral impurity have a very decided action. The fact is, that the Aberdeen water, being derived from a rapid river, the free carbonic acid is expelled by the agitation that it undergoes; for agitation is found by chemists to be an efficacious means of driving off this gas from a liquid solution; and, as a general rule, river waters contain no excess of carbonic acid. Moreover, there may be salts present with free carbonic acid in addition, in which case the salts will not prevent the corrosion of the lead.

In drawing water from lead pipes after it has stood for some time undisturbed, it is advisable to let the first portion of it run off before any is taken for use. With this precaution, little danger can arise from the use of lead in pipes; but either leaden cisterns should be wholly avoided, or

means taken to ascertain whether they contaminate the water; and if so, a remedy should be applied. The substitution of slate for lead in the lining of cisterns has been recommended by the best authorities.

Organic Impurities.

The contamination of water by vegetable and animal substances in a state of putrid decomposition, and by the minute forms of life bred among such impurities, takes place in various ways. The most obvious and abundant source of this class of ingredients is the sewage and refuse of towns, and next in order may be ranked the contact with soils rich in organic matter. Among organic impurities may be classed offensive gases, such as carburetted, sulphuretted, and phosphuretted hydrogen; vegetable fibres in a state of rottenness; putrefying products of the vegetable or animal kingdoms; starch, muscular fibre, &c.; urea and ammoniacal products; Vegetable Forms—algæ, confervæ, fungi, &c.; Animalcules—infusoria, entomostracæ, annelidæ or worms, &c.

There may not be any very clear evidence as to the precise effects of these impurities on the animal system, but the single fact of their rendering the water repulsive to the taste, and nauseous to the stomach, is sufficient to condemn their use. There is, indeed, a very great probability that waters highly tainted with putrid matters and loathsome insects are a frequent cause of diarrhœa, especially in the hot months: the aggravation of the epidemic of last year by this means was shown in many instances. What is disagreeable to the senses must be presumed to be unwholesome in addition, until the contrary is proved; but the wholesomeness of water abounding in vegetation, insects, and decaying products, has never yet been affirmed by any competent judge.

Water falling on a growing soil, and running off the surface to lie in stagnant ponds, is in very favourable circumstances for being tainted with vegetation and animal life. Water-plants will spring up and feed numerous tribes of animalcules, and each pool will be a constant scene of vitality. In such a state the water is usually unfit for drinking; the palate instantly discerns a disagreeable taint, and no one will use it who can do better.

The surface water of a district overgrown with peat-moss has usually a peaty flavour, as well as a dark and dirty colour. The infusion of peat does not breed animalcules, it being the opposite of a putrid substance—that is, it rather arrests than promotes putrefactive decay—but it is an objectionable ingredient nevertheless. Slow filtration has been found to remove the colour of the infusion; but if the filtered water be exposed to boiling or evaporation, the colour returns, showing that the peaty matter has not been altogether removed. It is perhaps doubtful whether any specific unwholesomeness can be justly attributed to peat water; but it is unpalatable, and the use of it is shunned by the inhabitants of peaty districts, especially in the hot months of the year, and even by the cattle. The presence of peat in the lands used as collecting-grounds for surface water—and it is generally such worthless tracts which are so employed—is a disadvantage attending that mode of supply.

The most frequently-occurring source of impurity, as already stated, is the contamination of wells and running streams by sewage. A number of

Important observations have been made by Dr Angus Smith of Manchester, on the waters supplied to London, at the request of the Metropolitan Sanitary Commission and the General Board of Health; and by these observations he has been able to trace the process of purification from such matters going on in nature—namely, the formation of the class of salts called nitrates, of which class saltpetre is a member. Matter that is at first in the state of impure decay, offensive to the senses, and productive of loathsome insects, becomes in course of time a stable and harmless product. Dr Smith was enabled to measure the quantity of organic impurity in the river Thames at different points by the amount of dissolved nitrate obtained from each point. He commenced his examination at the sources of the river, and continued it all the way to London Bridge, taking up specimens at successive stations. He found by this means that as the river became mixed with the sewage of the towns on its banks, the organic impurity increased accordingly, and with it the amount of nitrates, and other indications of such impurities.

Dr Smith found in some of the London wells an extraordinary amount of nitrates. The old well at Clerkenwell was found on examination to contain 148 grains of solid matter to the gallon, of which a part was nitrate of lime. If the filtration through the earth has been sufficiently prolonged to convert all the animal matter into nitrates, and to destroy other organic matter, the water will be pure, as far as the organic taint and the presence of animalcules are concerned, and will in fact be neither disagreeable nor unwholesome. Hence it may happen that wells deriving part of their supply even from water that has been in contact with cesspools and churchyards, may be fit for use—the organic matter having gone through its final transformation, and settled down into a mere mineral impurity. The process of natural filtration through beds of earthy matter is particularly favourable to the destruction of vegetable and animal remains. But in the rivers, the nitrates which represent the last stage of decaying matter are accompanied with the matter itself in its offensive condition.

Dr Smith proved by direct experiment that decomposing organic matter passed through a filtering bed was changed into nitric acid. 'A jar, open at both ends, such as is used with an air-pump, was filled with sand and some putrid yeast, which contained no nitric acid, was mixed with pure water, and poured on the sand, and allowed to filter through. The production of nitric acid was abundant.' The process that takes place in an open river, as above described in the Thames, goes on much more rapidly and effectually in a natural or artificial filter-bed; and hence the fact of the purification of wells in bad neighbourhoods.

We are thus made acquainted with one of the ways employed in nature for the purification of water from organic taints of the worst description. If sufficient time be allowed for the work, a perfect transformation of the offensive remains of living bodies into inoffensive mineral products will always take place; and slow filtration will tend to hasten the process. In the river Thames, near London, the contamination goes on at a rate far beyond the power of natural purification in the open stream, and the water continually abounds with matter in every stage of decay. But in respect to other sources of water supply, a knowledge of this purifying process is

important in allaying apprehensions as to the impurity of wells and springs suspected of too close proximity to drainage or other cause of pollution. If a tolerably thick bed intervene, the chances are, that a complete purification will be effected during the percolation; and at all events the water ought not to be pronounced bad on mere suspicion, nor until some of the decisive traces of organic impurity are apparent. On the other hand, mere surface waters, whether stagnant pools or running streams, are always liable to contain the untransformed and offensive kinds of animal and vegetable contamination.

Living Products of Organic Impurity.

We have already made repeated allusions to the occurrence of living vegetation and animals in water, of which some forms are visible to the naked eye, while innumerable others are disclosed by the microscope. These products in the London waters have been carefully studied by Dr Arthur Hassall, who has given valuable information respecting them, bearing on the practical arrangements for maintaining the purity of a town supply.

Dr Hassall states that the deeper wells, and spring water in general, contain little or no living organic matter. Consequently it is quite possible to obtain a liquid perfectly free from animalcules and vegetation; and it is not true that every drop of water teems with life. The presence of living creatures, vegetable or animal, discernible either by the naked eye or by the microscope, is a proof of organic taint in the water, and is one of the tests of this kind of impurity.

With respect to rain water, Dr Hassall states, in his evidence before the General Board of Health—'I have made several examinations of rain water immediately after its descent to the earth, obtained in both town and country, and can confidently assert that it does not, in general, contain any form of living vegetable or animal matter. In procuring rain water for microscopic examination, it is necessary, however, that certain precautions should be adopted in its collection: thus the vessel into which it is to be received should be placed far away from houses or other buildings, and also raised some two feet above the surface of the earth; or otherwise, in some cases, the drops of rain will bring down from the roofs and sides of houses sporules and filaments of *conferve*, the ova of *infusoria*, &c. the former of which are frequently very abundant on damp walls, sheds, palings, trees, &c.'

Thus although rain water has a strong tendency to take up organic impurities, and become tainted, it is proved that it is not in any sensible degree contaminated when it first reaches the ground: at the moment of its fall it is the purest water that nature presents, being surpassed only by distilled water.

The conditions necessary for the development of vegetation and animalcules, over and above the presence of matter for them to feed on, are *air*, *light*, and *stillness*.

With regard to the probable effects on health of living creatures contained in water, we have already remarked that precise information is wanting; but Dr Hassall's observations on this head are worthy of attention:—'All living matter contained in water used for drink, since it is in

no way necessary to it, and is not present in the purest waters, is to be regarded as so much contamination and impurity—is therefore more or less injurious, and is consequently to be avoided. There is yet another view to be taken of the presence of these creatures in water—namely, that where not injurious themselves, they are yet to be regarded as tests of the impurity of the water in which they are found.'

Tests of Organic Matter.

With regard to the modes of detecting the presence and measuring the amount of organic matter in waters, it is to be observed that none of them reach the accuracy of the tests for hardness, alkalinity, and mineral impurities in general. Hence the comparison of the merits of different specimens cannot be made with the same rigour as in the case of the other class of impurities. But at the same time there is no great difficulty in ascertaining that such matter is actually present, and there are means of approximating to the comparative amount.

1. The first method is that followed so successfully by Dr Hassall—namely, microscopic observation. The occurrence of the vegetable species and animalcules above-described is an infallible proof of the presence of organic impurity in its worst stages—that is, in the act of putrid decomposition, or in the course towards this consummation. These plants and animals feed upon the remains of other plants and animals, and cannot subsist upon mineral matter alone. A water is not perfectly pure if a single living being can live and procreate in it, and in proportion to the abundance of life is the amount of the impurity. The stagnant pond overgrown with gross slimy vegetation, and swarming with insect life and with innumerable microscopic animalcules, gives the highest possible evidence of its pollution. Moreover, in addition to the mere number of creatures that can be maintained on the foreign matters present in water, Dr Hassall has pointed out the fact, that particular species of creatures belong only to certain degrees and circumstances of pollution, so that the occurrence of a single specimen of such species stamps the character of a water at once. One species of the *paramecium* he designates as the *Thames paramecium*, because he found it in all waters derived from the Thames in the immediate neighbourhood of London.

From what has already been said, it will be apparent that in using the microscopic test regard must be had to the season, temperature, and other circumstances favouring the growth of living beings. If waters are to be compared with one another on the point of organic pollution, they must be examined under nearly the same conditions. The months of July, August, and September present the animalcular activity in greatest force, and during those months the examination of water by the microscope should be made. A water may show no living beings in the winter, and yet be far from pure; while, on the other hand, some streams, like the Thames, contain life all the year round, and differ in different seasons only in the number of species and of individuals.

The microscope will show the pollution of water from sewers by bringing into view solid particles that may be identified as belonging to the effete remains flowing away in the drainage of towns. Such matters were abundantly detected by Dr Hassall in his examination of the London waters.

There is a certain stage of pollution attained in the sewer water of the metropolis which is fatal to animal life, and consequently where animalcules cannot be detected. The poisonous gases (sulphuretted hydrogen, &c.) which make part of the contamination complained of in polluted water, are in this case too strong and too highly-concentrated for any species of living beings to exist in the midst of them. Dilution must take place before life can begin to appear.

2. The most usual chemical method of testing for organic impurity is to evaporate the water to dryness, and then to expose the solid residue to a red heat, so as to consume and dissipate everything but the earthy or saline portions. If the solid matter were weighed before being heated, and again weighed after the dissipation of the volatile ingredients, the difference would show what amount had been driven off; and this difference is set down as organic matter, while what remains is taken as the total earthy matter present. For example, if by evaporating a known fraction of a gallon of water, it were found that the total solid matter per gallon amounted to 12 grains, and that 9 grains remained after driving off the volatile portion, 3 grains would be reckoned as organic matter, and the remaining 9 grains earthy matter, contributing to the hardness, alkalinity, or other mineral quality of the water. When the amount of organic matter obtained in this way rises as high as 4 grains per gallon, it begins to be considered as excessive; while as much as 8 or 10 grains would form a most offensive degree of impurity.

The objections to estimating the organic matter by the loss on heating to redness are—1. That carbonate of magnesia, and even, when in contact with organic matter, carbonate of lime, may lose carbonic acid; 2. Chloride of magnesium, and possibly chloride of calcium, may give off some muriatic acid; 3. Nitrates, more especially in contact with organic matter, will lose oxygen (which, though the opposite to organic matter, will be reckoned as organic matter), and lose perhaps also their acid; 4. That some salts, particularly gypsum, will give off a last portion of water, very difficult to be separated at a lower than a red heat; 5. That some of the salts, particularly common salt, are apt to be volatilised at a red heat; 6. And finally, that the loss from these, and perhaps other causes, is apt to be proportional to the saline matter operated upon; so that the amount of error in heating to redness twenty-five grains of saline matter has a chance to be five times more than upon five grains; and consequently, the error on the estimate of the organic matter from the result thus obtained has a chance of being also five times greater.

3. The following method of ascertaining the presence of organic impurity has been practised by Mr Homersham the engineer:—Fill a stoppered bottle nearly full of the water, and put it aside in some dark place where it will experience a temperature of about 70° of Fahrenheit. After allowing it to stand a few weeks, draw the stopper, and apply the nose to the mouth of the bottle; if the water smells in any perceptible degree, it may be pronounced a tainted water.

4. Forchhammer has introduced a method of testing organic impurity by means of the decoloration of oxymanganate of potash. When this process has been so matured as to express degrees of a scale of impurity, it is believed capable of becoming a very effective test.

QUALITIES OF WATER FOR DRINKING.

On this subject we can do nothing better than present the following carefully-considered statement, occurring in Professor Clark's evidence before the Health of Towns Commission:—

'In the first place, the particular kind of water that is agreeable is dependent very much on the habits of the drinker. If you are accustomed, exclusively, for a certain time to a hard water, you acquire a liking for hard water; if to a soft, you acquire a liking for soft, just as habit varies the taste for other beverages. Putting the effect of habit out of the question, one circumstance, which I think is most material for water to be agreeable, is the temperature, especially in warm weather, when good water to drink is most prized. It has been supposed that water, such as is used in this town (London), being exposed in a room for some time, loses a portion of its carbonic acid. Everybody knows that water which has been in a sitting-room is not so agreeable as when first drawn; but I am quite satisfied that whatever be the cause of its becoming less agreeable, it is not in general the loss of the carbonic acid; for I am quite certain that there is not in any of the waters about London an excess of carbonic acid over and above what is necessary to form the bicarbonates present. I think the main point affecting the agreeableness of a water, as far as I have seen in examining water accounted agreeable in this town, is the temperature. In summer-time you have the spring waters, when fresh drawn, cool. You can have other waters rendered more agreeable than they are in summer-time, if you take the pains of cooling them to the same degree as the spring water. You must not have the water too cool either, otherwise it is unpleasant as well as unsafe to drink; but an average temperature of the climate, which is about 50° Fahrenheit, is a very agreeable temperature for water. So far as the presence of carbonic acid will add to the agreeableness of water—and it does so to many tastes—that quality can be imparted to any water by the simple expedient of adding a very small quantity of soda water. No doubt there are circumstances that make water offensive, particularly the presence of vegetable matter in a state of change, whether that matter be undergoing putrefaction or a vegetating process of any kind. In any such case I reckon the water polluted, and the taste is entirely tainted and offensive, especially to persons not accustomed to drink such water. But if water be free from taint, be of a sufficiently low temperature, and be not absolutely deprived of wholesome gaseous matter, I think it has most of the qualities proper to render it agreeable, allowing for the variations in taste that are acquired. If all these conditions contributing to the agreeableness of a water exist, then I think that such persons as have been accustomed to drink various kinds of water will be found to prefer a water containing little saline matter to another containing much; if a contrary impression has been usually entertained, it is owing to some of the other circumstances affecting agreeableness having been overlooked. At the present time (the month of June), in order to obtain good drinking water for London, I would recommend the use of water that has been boiled, cooled, treated with carbonic acid by the addition of a little soda water, and then iced to a temperature rather under 50° Fahrenheit; but all this pains to obtain good water cannot

WATER SUPPLY OF TOWNS.

be taken by the poor, or even by the generality of families in the middle classes. I think that if the means were taken by the existing water companies, water only requiring to be a little cooled in the heat of summer to be fit for drinking by all classes might be supplied—and should.*

It is not generally suspected that the universal preference of spring water for drinking depends to a great degree on the accidental suitability of its temperature for this purpose—a quality which of all others is the most easily affected and the most readily controlled. Surface waters and rivers have a repulsive coldness in winter, and a disagreeable, unstimulating warmth in summer; and at both extremes they would require to be artificially treated before being employed as a beverage. The icing of water down to the freezing-point in summer is not advisable; the use of a thermometer to ascertain when it has reached 48° would be much more to the purpose. Water should never be drunk below 45°.

Spring water is notable for containing a large quantity of atmospheric air, and occasionally of carbonic acid, which seems to contribute materially to its agreeableness as a drink. Exposure and agitation cause the loss of a large quantity of this dissolved air, and by so much tend to render the water rapid. Effervescing drinks owe their stimulating effect to an overdose of carbonic acid evolved in them by a chemical action. There is an easy means of giving a slight charge of carbonic acid to any water containing dissolved carbonates (probably one of the most prevalent ingredients of water), by dropping in a few drops of dilute muriatic acid; acid of the specific gravity of 1.10 may be recommended for this purpose. If the water be first boiled, in order effectually to destroy all organic taint, and if, after cooling down, it be slightly acidulated in this manner, the carbonic acid evolved will very sensibly enliven it and enhance its quality as a drink. In such water as the Artesian-well water of London, containing a large amount of carbonate of soda, this application would be found very effective. There is a form of vessel used by chemists for the express purpose of letting a liquor run out drop by drop: and with this the acid may easily be dropped into the water vessel.[†]

CHOICE OF A TOWN SUPPLY.

Too great pains cannot be taken in the first choice of water for a town supply. The whole district should be carefully searched, and the qualities and amount of every available source accurately tested. With the means now at command for examining waters, it is possible to fix upon the best within reach; so that, in fact, the most distant posterity may not be able to improve upon the supply. The expense incurred in the first determination of the best source should be held as nothing in comparison with the importance of settling the point once and for ever.

* Some care is necessary in obtaining muriatic acid for such a purpose, and still more in the extensive use now made of it in the baking of unleavened bread, to make sure that it is perfectly free from arsenic. The effectual mode of testing for arsenic is to pass sulphuretted hydrogen gas through the acid, *having first heated it to the temperature of 200°*. If the liquor remain perfectly transparent, its purity may be relied on. Arsenic would at once produce a yellow precipitate.

The survey of a district for the choice of a water should be made both by an engineer and chemist; and each of the two should have special knowledge and experience on the question in point. The examination ought to be conducted under a variety of circumstances—after rain, and after drought, and especially during the warm months of July, August, or September, when every kind of surface water suffers most deterioration. All the accurate tests for mineral matter should be applied; the hardness and alkalinity determined, and the effect of boiling ascertained. If a soft water cannot be procured, it is best to choose the water that is softest after prolonged boiling. A water which neither boiling nor any other method can reduce below 6° of hardness, is to be looked upon as highly objectionable; and one rising above 6° in its natural state is, if possible, to be avoided. If the excessive hardness in any case be due principally to carbonate of lime, there is a method of softening, to which we shall presently advert, so simple and easy, that such a water may be adopted without hesitation, if otherwise eligible.

Particular care must be bestowed on the testing for organic impurity; and the summer and autumn months should be selected for this purpose. The tests above given are quite sufficient to show whether the amount of this species of impurity be so excessive as to disqualify the water for domestic use. If the water be surface water, and has not been exposed for a length of time to natural purification, as in a river of large volume, organic impurity in the hot months is to be almost presumed, and the only question will be one of degree.

The greatest blessing that can happen to a town is to have an abundant supply of soft water from springs. Spring water being always free from organic impurity, having an even and admirably-adjusted temperature throughout the year, and being well aired and of sparkling brightness, it requires only the addition of the quality of softness, and freedom from saline matters generally, to make it absolute perfection for every ordinary purpose of water.

The common case with springs, however, is to show a considerable amount of saline constituents, and those of the hardening kind. In such circumstances there is a choice of difficulties. But, in the first place, the hardness may be removable by the methods already alluded to. In the second place, if the hardness is not removable, a compromise may be made by employing surface or river water of the requisite softness for washing, cooking, &c. and resorting to the springs for drinking water.

In every case of the public supply being from surface drainage or rivers, the springs and wells of the town should be religiously preserved, and made available for the drink of the population. No other water is well adapted for a beverage in the extreme seasons of the year; and it is preferable to every other water at any season. There should be always a sprinkling of wells in a town in addition to the pipe water carried into every house, if that water is not directly obtained from springs: these wells should be maintained at the public expense, and protected from the contamination of drainage, cesspools, and burying-grounds. It should be within the power of every inhabitant of the town to procure at all times a cooling draught fresh from the fountains of mother earth. This precaution was generally overlooked when the new method of extending pipe water to every house

was first introduced in towns; but after a few years' experience of river supplies, attention is again directed to the preservation of the wells as the only sources of a pure and exhilarating beverage, unaffected by the vicissitudes of the seasons. It is not possible in the summer months to obtain a water of the proper coolness, and free from vegetation and animalcules, except from springs.

The muddiness of a water is of course an objectionable quality, but it may not be an insuperable objection. If it is perfectly removable by the ordinary sand-filters, it need not stand in the way of a water's being adopted; but there are forms of muddiness that filtration may not clear. The diffusion of fine impalpable clay is almost incurable; and a still greater evil is the slimy matter caused by an excess of organic impurities in the hot months. This kind of solid impurity is extremely difficult to remove by any of the ordinary methods of filtration.

The chalk formations, which yield river waters of about 16° of hardness, contain also springs of the same or still greater hardness, having all the good qualities of spring water, and objectionable only on account of the hardness. The precipitation of the chalk by softening processes leaves those waters in a very high state of purity, and in every way suited for a domestic supply. A softened chalk water is found to be very remarkable for its clearing qualities, and is thus strongly recommended to dyers and calico-printers, as well as for washing purposes generally. When water is derived from the chalk, therefore, the shallow springs are to be preferred to the rivers, being free from organic matter, and often no worse in respect of hardness.

There is a peculiarity attending both the chalk and sandstone waters—namely, their tendency to favour vegetation when kept in shallow ponds. It is found necessary in filtering a chalk water, such as the Thames, to have the water on the filter not less than six feet deep, otherwise plants would take root and choke the filtering bed. But a sufficient depth of reservoir is in all cases a protection against this particular tendency.

The following statement from Professor Clark's evidence exhibits in a strong light the importance of the quality of *softness* in the water chosen for a town supply:—

'The hard water has a tendency to discourage washing of clothes among the poorer classes, and to bring on them great expense in clothes. This consideration bears very closely on the clothing of women and children; and I rather think that if manufacturers of the articles of clothing worn by women and children in a district supplied with hard water—this very London, for example—were consulted, it would appear that they are obliged to supply articles of such dark dyes as will not let the dirtiness be seen. Now to substitute the art of concealing dirt for a habit of cleanliness not only is unfavourable to health and comfort, but is unfriendly to a decent self-respect; yet an observant eye cast on the women and children of the poorer classes in London may discover that such has been the result here.'

In corroboration of this last remark, the following quotation is given from Raumer's England in 1835:—'We returned to the beautiful St James's Park, went through the Green Park to Hyde Park, then into Kensington Gardens, and back to Hyde Park, favoured by the weather,

and cheered by the freshness of a spring. . . . All the women of the lower classes were very simply dressed, chiefly in black or dark colours, but few remarkable for beauty,'—Vol. i. p. 212.

FILTRATION OF WATER.

The mechanical impurities of water, or the solid particles rendering it muddy or milky, may in most cases be removed by mechanical means. The two processes for this purpose are *subsidence* and *filtration* :—

The subsidence of solid particles depends on their own weight, as compared with the weight of an equal bulk of water. To favour the process the most perfect stillness should be allowed. It is expedient to have partitions placed in the subsiding reservoirs at short intervals, more effectually to prevent the agitation of the water. The liquor should be run off from the top, and not from the bottom. By making the bottom of the subsiding reservoir form a declivity from opposite sides, and providing means to let off the water occasionally from its lowest depth, it is possible to get quit of the subsided mud.

It is always found of advantage in clearing water from solid particles, whether by subsidence or by filtration, to mix together streams of different qualities. 'Whenever you have any dirty water, the subsidence of the dirty matter is greatly aided by mixture, and a consequent precipitation. The mixture of different waters causes them to act on each other, occasions a readiness to precipitate, and the deposit of floating mechanical matter takes place in this manner much more readily in consequence of the thorough admixture of the two kinds of water. The success of the filtration of water on the large scale I think is greater in Lancashire than in any other part of the United Kingdom. I attribute a very great portion of that success to this arrangement, for it is a point universally known to chemists, that you cannot filter water clearly unless it be in such a state that it will spontaneously deposit the solid matter by subsidence, and leave the water clear.'—(Clark, 'Evidence,' &c.)

There are two methods of filtration—one is known as the Natural Filter, the other is called the Lancashire Filter. The natural filter consists mainly of a bank of sand by the side of a river, through which the water percolates into a tunnel formed underneath to receive it. This filter was first applied at Glasgow, and the Glasgow method was imitated in various other places; but it is now believed to be a failure. The filter bed is often found to yield springs of an objectionable quality of water. A still more fatal objection, and one belonging to the very nature of the construction, is the changing level of the water in the river. It will happen that in hot weather, when water is most in demand, the level is lowest, and the quantity passing through the filter least. The consequence is, that where this filter is employed, it becomes necessary in the summer months to take water from the river direct for the supply of the town.

The Artificial or Lancashire Filter is thus described by Professor Clark :—'Supposing you have a flat horizontal surface to form the bottom of the filter, that is, puddled; above this you spread gravel, and, in general, large stones. In the spaces between those stones you have the water.

received, and passing out by means of little tunnels near the bottom. These are formed in a variety of ways. A very good method of forming them has been recently practised, and answers very well—the using simply of agricultural drain-tiles. Those little tunnels are for letting off the filtered water all around them. If you have large stones, the interstices between those stones constitute a receptacle for holding the filtered water. Above the large stones you have large gravel, then smaller gravel, till you come to sand. The whole of the cleansing part of the filter consists of sand. This is of a larger grain than the common sea-sand, except such as we see in rocky districts at the mouths of rivers on the shore—large grained sand of a uniform size. The filter, I think, may be worked so low as four inches of the sand; I think it is constructed at about fourteen inches. From four inches to fourteen inches is a workable depth of sand. The solid matter intercepted does not penetrate perhaps so much as a quarter of an inch, so that by removing a very small film from the surface you get a clear filter; this removal is performed by a workman from time to time. I think that this process of filtration is efficacious in removing mechanical impurities to an extent that could scarcely be believed without seeing the process. What dirty water is thus filtered and used in some of the first manufactories of calico-printers, where one would think good water was at least very desirable, would not have been believed by me to be possible if observation had not made me familiar with the fact. Cleaning the filter is a matter of very small expense in a large manufactory, neither is the structure of the filter expensive. What is scraped off the top is set aside, and at the end of such a period as a year, is washed and put back again on the surface of the filter, so that no renewal of fresh sand is necessary. Such is an outline of the Lancashire filtering.

In preparing the filter great care is requisite in washing the sand, so as thoroughly to remove all fine particles of clay or mud, and all matters liable to disintegrate and yield impalpable powder in the process of filtering. The washing is performed by exposing the sand to a stream of water sufficient to carry off the lighter matters without sweeping away the siliceous particles. The test of the sand's being thoroughly washed is to put a quantity of it into a tumbler of clear water; and if the sand, after being stirred up, falls down and leaves the water as transparent as before, it may be considered perfectly clean. Should the sand not have attained this degree of purity, or should any milkiness appear in the tumbler, the fine matter remaining will have the effect of rendering the filter inert.

Of all the filters that have been tried, none has yet succeeded so well as the plain sand filter. It is easily cleaned, and requires only the addition of fresh sand at intervals of time. A sand filter has been in operation at the Chelsea Water-Works for twenty years.

The expense of filtering water on the large scale for a town or manufacturing supply is found to be at the rate of one penny for 3000 gallons. A consumption of 100 gallons a day might be filtered for a shilling a year. Considering the great improvement that all surface and river waters undergo by filtration, and the muddiness that such waters are liable to, especially after rains, they ought always to be subjected to the filtering process.

We have already seen that lead is removed from water by filtration. The same will happen to iron if any circumstance leads to the precipitation

of the iron into the solid form. Now not only does soluble carbonate of iron tend to become insoluble peroxide, by exposure to air, but the action of organic matter upon iron forms an insoluble compound, which a filter will remove. The entire purification of water containing iron has in actual instances been effected by filtration.

Water highly charged with organic matter may be partially purified by an ordinary filter, inasmuch as part of the impure ingredient may exist in the solid shape as diffused muddy particles. Dissolved organic matter is not removed at the usual rate of filtration; a tainted water will show its taint and breed animalcules after passing through the filter. Whether a slower mode of filtration, more analogous to the natural process that spring water is subjected to, may be introduced into practice on a large scale remains yet to be seen.

CLARK'S PROCESS OF SOFTENING CHALK WATERS.

When the hardness of a water is principally due to chalk or carbonate of lime, which is the case with the waters about London, and over several English counties, nearly the whole of the matter may be thrown down by a simple method discovered and reduced to a workable shape by Professor Clark. The following is an outline of the process given in his own words:—

‘To understand the nature of the process, it will be necessary to advert, in a general way, to a few long-known chemical properties of the familiar substance chalk; for chalk at once forms the bulk of the chemical impurity that the process will separate from water, and is the material whence the ingredient for effecting the separation will be obtained. In water, chalk is almost or altogether insoluble, but it may be rendered soluble by either of two processes of an opposite kind. When burned, as in a kiln, chalk loses weight. If dry and pure, only nine ounces will remain out of a pound of sixteen ounces. These nine ounces will be soluble in water, but they will require not less than forty gallons of water for entire solution. Burnt chalk is called quicklime, and water holding quicklime in solution is called linewater. The solution thus named is perfectly clear and colourless. The seven ounces lost by a pound of chalk on being burned consist of carbonic acid gas—that gas which, being dissolved under compression by water, forms what is called soda water.

‘The other mode of rendering chalk soluble in water is nearly the reverse. In the former mode, a pound of chalk becomes dissolved in water in consequence of losing seven ounces of carbonic acid. To dissolve in the second mode, not only must the pound of chalk not lose the seven ounces of carbonic acid that it contains, but it must combine with seven additional ounces of that acid. In such a state of combination chalk exists in the waters of London, dissolved, invisible, and colourless, like salt in water. A pound of chalk, dissolved in 560 gallons of water by seven ounces of carbonic acid, would form a solution not sensibly different, in ordinary use, from the filtered water of the Thames, in the average state of that river. Chalk, which chemists call carbonate of lime, becomes what they call bicarbonate of lime when it is dissolved in water by carbonic acid.

‘Any linewater may be mixed with another, and any solution of bicar-

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bonate of lime with another, without any change being produced. The clearness of the mixed solutions would be undisturbed. Not so, however, if limewater be mixed with a solution of bicarbonate of lime. Very soon a haziness appears, this deepens into a whiteness, and the mixture soon acquires the appearance of a well-mixed whitewash. When the white matter ceases to be produced, it subsides, and in process of time leaves the water above perfectly clear. The subsided matter is nothing but chalk.

'What occurs in this operation will be understood if we suppose that one pound of chalk, after being burned to nine ounces of quicklime, is dissolved, so as to form forty gallons of limewater; that another pound is dissolved by seven ounces of extra carbonic acid, so as to form 560 gallons of a solution of bicarbonate of lime; and that the two solutions are mixed, making up together 600 gallons. The nine ounces of quicklime, from the one pound of chalk, unite with the seven extra ounces of carbonic acid that hold the other pound of chalk in solution. These nine ounces of quicklime and seven ounces of carbonic acid form sixteen ounces—that is, one pound of chalk, which, being insoluble in water, becomes visible at the same time that the other pound of chalk, being deprived of the extra seven ounces of carbonic acid that kept it in solution, reappears. Both pounds of chalk will be found at the bottom after subsidence. The 600 gallons of water will remain above, clear and colourless, without holding in solution any sensible quantity either of quicklime or of bicarbonate of lime. The weight of chalk separated from the whole waters of the several companies (of the metropolis), estimated at 40,000,000 of imperial gallons, would be about twenty-four tons a day, or 9000 tons a year.*

This process has been repeatedly exhibited by the inventor on a small scale, and it is now in regular operation on the large scale at Messrs Hoyle and Sons' Printworks, Mayfield, Manchester. Some trials of the process have recently been made at the Chelsea Water-Works. We have been shown a written note of the principal results of the experiments, drawn up by the engineer that conducted them—Mr James Simpson, junior. He says, 'the process seems to work better, and the deposit to take place more quickly, on the large scale than in the laboratory; and the larger the scale, the more prompt the deposit. The deposit appears to consist, not of a precipitate in powder, but of well-defined minute crystals of kalspar, which enlarge and fall better, in proportion, as the mixture receives more agitation.'

When tried upon specimens of water derived from chalk springs near Watford, it was found capable of reducing the hardness from 17° to 3° . The time required for the precipitation of the chalk and the clearing of the water is less than twelve hours in a water such as is found in the neighbourhood of London. If there be any mechanical or organic impurities in addition to the chalk, or any colouring matter, these are involved in the precipitate, and carried down along with it. In the case of the Thames water much more is removed than the mere chalk. Organic compounds are withdrawn from solution, insects and animalcules are destroyed, and mud carried to the bottom.

* A New Process for Purifying the Waters supplied to the Metropolis by the Existing Water-Companies. 4th edition. London: Published by R. and J. E. Taylor, Red Lion Street, Fleet Street. 1849.

The Messrs Hoyle adopted the process solely for the sake of its collateral effect in freeing the water from organic matter; and it has been perfectly successful—the success in this respect of course implying success in its main object, for it is only through the precipitation of the chalk that the organic matter is carried down. They state regarding the process—‘We operate upon several hundreds of thousands of gallons daily, and we have observed nothing in our operations to lead us to doubt that the process would work well on the largest scale.’

The process, which is essentially an inexpensive one, has been recommended by the General Board of Health to various towns coming under their inspection, in accordance with the provisions of the Public Health Act, and two of the new schemes brought before parliament last session for the supply of water to the metropolis involved its application. With such a process to fall back upon, the inhabitants of London have no need to want a soft and pure water supply.

STORAGE AND DISTRIBUTION OF WATER.

In the intermediate stages between the source of a water and the houses of its consumers, much may be done in the way of either preserving or impairing its purity. The whole of the arrangements for transmitting and distributing the supply are purely of an engineering character; but the works of the engineer have to be controlled by considerations as to the properties of water.

The extent of the storage in reservoirs depends on the nature of the supply. If water is derived from perennial springs, whose minimum flow equals the maximum demand, the storage may be the least possible. If a river is the source, the reservoirs should be large enough to hold such a stock as will carry the consumers over the periods when the river is polluted by rains; they should also be large, on the principle of allowing time for purification by subsidence, especially if artificial filtration be not employed. In places where the supply is obtained from surface drainage, the practice has been to build reservoirs capable of containing a five or six months' supply, it being necessary to provide against the greatest droughts that ever happen in any season.

The reservoirs should be deep, so as to prevent vegetation, and the lining should be of some material that vegetation will not take root in. It is also desirable to shelter them from the action of the sun, which would otherwise raise the temperature and develop animalcules.

In distributing water over a town, two different methods have been adopted, known respectively as the *intermittent* and the *constant* systems of supply. On the intermittent system water is laid on once a day, or once in two days or three days, as the case may be, and fills a tank attached to every separate house, generally low down in the kitchen area, and from this tank the water is drawn off as required. On the constant system no tank is needed, but the house-pipes are kept constantly charged through their unbroken connection with the distributing reservoir. The intermittent supply is employed everywhere in the metropolis; but it is almost universally admitted that the other system is vastly superior in every

respect; and in consequence all new works are erected on this system. The disadvantages of the intermittent practice have been strongly set forth in all the recent official reports on sanitary improvement: the expense of the erection and repair of cisterns, the trouble requisite to keep them clean, the contamination of the water by the neighbourhood of sources of pollution, the frequent waste of water that occurs, the difficulties imposed on the poorer class of tenements where cisterns are not provided—are a few of the objections urged against this mode of supply. Dr Hassall's examination of the cistern water of London revealed a frightful amount of pollution—the consequence of placing water already impure in circumstances where the impurity is still further aggravated.

The system of intermittent supply is usually accompanied with the practice of extra charges for high service—that is, if a water is carried to a cistern at the top of a house, instead of being led to the tank in the area, an addition is made to the water rent. For example, the Grand Junction Water-Works Company in London charge 76 per cent. extra for carrying water to the third floor, 59 per cent. to the second floor, 43 per cent. to the first floor, and 26 per cent. to the entrance floor. These charges necessarily operate as a discouragement to the laying on of water to supply baths and water-closets anywhere above the level of the sunk floor. The employment of wooden pipes, which could not bear a high pressure, was the original cause of the low service, and it has been continued, after the introduction of metallic pipes. The companies gain exceedingly little by the mode of separate charging for the high service, while the public are deprived of very great conveniences. The method of making a separate charge for baths and water-closets is likewise found to be of little profit to the companies, and of great mischief to the consumers: it only tends to retard the general introduction of these indispensable articles of health and comfort.

It is scarcely necessary to advert to the advantages of laying on water on every individual tenement, over the method of common stand-pipes, where time and labour are wasted for no good. The cost of house-service is so trifling that there is no object gained in obliging the inhabitants to go to the street for their supply. Moreover, the system of stand-pipes is found to be attended with very great waste of water.

As an example of the cost of a public water supply, we may quote the case of Aberdeen, where the works have not been rendered by any circumstance unusually expensive. The supply is administered by the commissioners of police, and is paid for by a public rate. The houses that have no private service contribute 6d. a pound rental, while for private service 9d. a pound is charged extra, being 1s. 3d. on the whole. A house rented at £5, and rated at £4, would pay 2s. a year for access to the public stand-pipes, and 5s. a year for private service. The water-rate at an average of the population is 1s. 2d. a-head, and the amount supplied 12 gallons a-head. Compare this with the water-rate of the metropolis, which is at an average £1, 10s. per house, and upwards of 4s. a-head. It would, however, hardly be possible to supply London at the same rate as Aberdeen—considering the inferior natural position, the magnitude, and the complicated arrangements of the former—but the difference here given is enormous and uncalled for.

ADMINISTRATION OF THE WATER SUPPLY.

In some towns the public water supply has been lodged in the hands of private companies, and in others it has been committed to the public authorities charged with other works relating to the public health—as, for example, drainage, and surface paving and cleansing. Experience has shown that this last method, if instituted from the first, is the best for the public. Private companies, requiring to reimburse themselves for their outlay, must lay an extra charge upon the consumers as profit; but what is of still more consequence, they can only supply on the voluntary principle: hence the poorest class are apt to be neglected if their landlords grudge the cost of the service. Corporations, on the other hand, make no profits, and are armed with powers to carry their supply everywhere, and to exact payment by compulsion.

But the partition of the different public works relating to the health of a town among different authorities is found to be a great obstruction to their effective management. In the metropolis it happens at present that no less than four jurisdictions come to be exercised on the same spot—on a line of street, for example. One body has the charge of the street's crust—the forming and cleansing of the pavement; another has charge of the sewers; a third has the power of entry to lay water-pipes; and a fourth comes and breaks open the street to supply gas. Interference and obstruction are the inevitable result; and the want of a common understanding in laying open the streets is particularly injurious to the character of the pavement, and the convenience of the traffic.

The General Board of Health have laid much stress on the combination of works of drainage with the water supply—the one being, as it were, the continuation of the other. They represent, that had the two been under the same management in the metropolis, in addition to other advantages the water would have been less wasted than it is found to be.

In many of the cases where the management of the water supply has fallen into private hands, and thus become detached from the related works, embracing the interests of the public health, complaints have arisen, and a desire manifested to transfer the management to a public body. But the rights of a company established under an act of parliament cannot easily be set aside, and must in general be purchased at a price beyond their actual present value to the town. Admitting, therefore, the expediency of putting the water supply into the hands of the public authorities in all cases where it is instituted *de novo*, the existence of a company with a large expended capital alters the circumstances considerably. Should the inhabitants of any town resolve to obtain better terms from an existing company than they may have at present, three courses are open to them:—

1. Purchase of the works and interest of the company. This will invariably be a sacrifice to the town to some extent; and the expenditure may be so great as to render it impossible both to improve and cheapen the supply. At Manchester the supply has been transferred to the corporation by purchase; and from the amount paid to the old proprietors, the water-rate must be burthened for ever with a charge for works that no longer

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serve the public. The expediency of this method must depend entirely on the nature of the bargain that can be made with the companies. To give them what they would consider a fair price for their plant would sometimes be grossly unfair to the public, and not the most economical way of obtaining the end sought.

2. Another method is to set up a new company under conditions and restrictions such as to give to the public security for good water at a reasonable price. If the kind of water to be supplied were agreed upon, and a maximum rate fixed, the new company would enter the field, and compel the existing company to come to the same terms. This would be to have recourse to competition under a guarantee against the practice, so universal with rival companies, of coming to an understanding, and raising the prices higher than ever. Without some such guarantee the public may lose, but they never can gain, by competition. The 'multiplication of capitals on the same field of supply' causes a loss somewhere, and either the capitalists or the public must bear it. The principle of establishing a new competing company, with restrictions and conditions for protecting the public, has been lately applied in the introduction of a gas supply into the city of London. There will be cases where this plan is a much less evil than buying up existing works at a price far beyond their value.

3. The remaining method is that contained in the provisions of the Public Health, and is carried into operation in all towns where that act is applied. The Local Board of Health in each place is empowered to supply the inhabitants with water, and to carry it into every house, under restriction as to charge; and in providing this supply they are, in the first place, to endeavour to contract with an existing company, if there be a company; but if the company refuse to grant a supply on reasonable terms, the Board may erect works, and obtain a supply independent of the company. In case of a dispute as to terms, the General Board of Health are to be referee in the first instance; and should their award be refused, arbitration is resorted to in a manner provided for in the act. The power thus conferred on the Local Boards of Health is in general found sufficient to secure reasonable terms from existing companies; and the expensive process of purchasing the old works is avoided, while the distribution of the water is put under public control, and every house is secured in a supply. This device may be employed wherever the Public Health Act is introduced; and it may be taken as representing what the wisdom of parliament deems best to be done under the circumstances.

WATER SUPPLY OF THE METROPOLIS.

The supply of water to the vast population of the metropolis has been a subject of anxiety for many years, and is especially so at the present moment. The actual supply is in the hands of nine private companies, who derive it either from the Thames or from streams of the chalk formation. The Thames water has a hardness varying from 11 to 13 degrees on Clark's scale, and is always charged more or less with organic impurity. The system of keeping it in tanks tends to further deterioration; and if to these causes we add the neglect of filtration by most of the companies, it

may be readily supposed that the inhabitants in some parts have to use a very objectionable water.

The General Board of Health having been directed by government to investigate the whole question, made their Report to parliament in May 1850. The Board adverted fully to the defects of the existing supply, and without entering into the merits of the schemes propounded by other parties for obtaining an improved supply, they broached the idea of deriving a quantity of water sufficient for the entire metropolis, and unobjectionable in quality, from a tract of barren sandy land in the county of Surrey, part of which is known as the Bagshot Sands. But before alluding more particularly to this plan, we will state briefly the nature of the other schemes at present before the public for the same purpose.

1. One method is to derive a supply from the Thames at a higher point than the source of any of the existing supplies. One party has fixed upon Henley as the proper point, and another would take it still higher—at Maple Durham. The distance of Maple Durham from London is nearly forty miles; and the water obtained there would escape the contamination, not of the London sewage merely, but also of the sewage of the other populous towns higher up on its banks. The promoters of the Maple-Durham scheme propose to soften the water by Clark's method; the promoters of the Henley scheme—who brought a bill into parliament last session, which was thrown out in consequence of the opposition of the government—did not undertake to soften the water; but there can be no doubt that any fresh supply from the chalk would be unsatisfactory if it were not first softened by this very cheap and effectual process. It is pretty certain that water taken so near the sources of the Thames, and deprived of three-fourths of its chalk, would be, as far as quality is concerned, an eligible supply.

2. The second method consists in resorting to chalk springs, or to the sources of the river waters about the metropolis, where a supply of water entirely free of organic impurity may be obtained, and having no objectionable point except the hardness. But the hardness of pure chalk waters can be almost wholly removed by the softening process, and the spring water thus treated becomes of the highest degree of purity. A company has been formed to provide a supply on this principle from springs at Bushey Meadows, near Watford, for the benefit of the north-western division of London. The lime process reduces the hardness of this water from 17 to $3\frac{1}{2}$ degrees of hardness, which, in fact, may be accounted a perfectly soft water; and there being no organic impurity, the water would be in all respects of first-rate quality. The even temperature of springs would belong to it: and while probably containing no excess of carbonic acid to act on the pipes, it would be found to have the amount of dissolved atmospheric air usual in spring water. The Watford springs would supply only a fraction of the metropolis: but similar springs exist in many other parts of the London basin. The principle of the supply is, to mount to the springs that feed the rivers, instead of taking the rivers themselves.

3. Captain Vetch, an engineer in the service of the government, and one of the metropolitan Commissioners of Sewers, has, in his evidence before the General Board of Health, given as the results of a survey of the rivers about the metropolis the following as eligible sources of supply:—First, the river

Lea near Hertford, from which an aqueduct 14 miles long might bring in a supply of 7,000,000 of cubic feet per day, and deliver it at an elevation of 140 feet above Trinity high-water mark; second, the river Darent, south of the Thames, and below London, to be conveyed in an aqueduct 13 miles long, and to bring in a supply of 3,000,000 of cubic feet per day; third, the river Colne, to be conveyed in an aqueduct 12 miles long, and to bring in 3,000,000 of cubic feet; fourth, the river Mole, to be connected with the metropolis by an aqueduct 15 miles long, to bring in from a point on the course of that river, a little way above the village of Betchworth, about 3,000,000 of cubic feet per day. Captain Vetch's supply would thus amount to 16,000,000 of cubic feet, or 100,000,000 gallons a day; nearly double the present supply, and more than double the amount that the General Board of Health consider requisite for all the purposes of the metropolis. Two of the smallest of these sources would afford the quantity needed according to the Board's estimate of the supply. The quality would be pure chalk water, requiring only the application of the softening process.

4. The scheme of the General Board of Health consists, as has been stated, in obtaining a supply from the Bagshot Sands. The water derived from these sands had previously been known to be remarkably soft, specimens of it varying from 3 to 6 degrees of hardness. The Board, at the date of the publication of their Report, were not aware that spring water could be obtained from those sands in sufficient amount for the supply of the metropolis, and proceeded on the supposition, that the surface water of the sands and heath would require to be used along with whatever might be obtainable from springs of the degree of softness desired. But the examinations made subsequently have gone to show, that the area in question is capable of furnishing an adequate supply from springs alone, and therefore that the surface water, which is to a great extent contaminated with peat, may be dispensed with. In consequence of a Report made to the Board by the Hon. William Napier, who examined the ground at their request, which Report set forth the abundance of spring water of not more than two degrees of hardness, and the greater part of it of less than one degree, the Board directed Mr Rammell, one of their engineering inspectors, to make a fresh gauging of the springs; and from his Report we extract the following particulars relative to the proposed supply:—

'The total area included is of very considerable extent. Taking Farnham as a point of departure, the district stretches northward beyond Sandhurst and Bagshot to Wokingham, Sunning Hill, and Virginia Water, and southward to the distant villages of Bramshot and Haslemere. On the western side its limits would be defined by a nearly straight line passing through Barkham, Eversley, Crondall, and Kingsley; while its eastern and south-eastern boundary, which is extremely irregular, would be marked by Chobham, Pirbright, Guildford, and Dorking, and the high water-shed line stretching from the Leith Hill to the Hind Head. The length from north to south is about 25 miles, and the extreme breadth from east to west about 24 miles; the whole area included exceeding 300 square miles.

'Parts of four distinct drainage areas are included within the limits. The valley of the Wey runs along the eastern side of the northern-section,

and across nearly the whole of the southern section. The Blackwater, and other tributaries of the Loddon, drain the large remainder of the northern section, except the upper part of its eastern side, which draws into the Bourne Brook. The extreme western end of the southern section falls towards the mole.'

Mr Rammell gauged the flow of twenty-one spring-water streams falling into the Wey, nineteen streams falling into the Loddon, six into the Bourne Brook, and one into the Mole, and found the united body of water equal to 51,375,000 gallons. The gaugings were taken in the latter end of October, about the termination of the dry season; and it may be presumed that at least an equal flow may be obtained all the year round. To this was to be added another district supposed capable of yielding 10,000,000 gallons additional.

'It follows, then,' says Mr Rammell, 'as the result of my examination and gaugings, that the minimum available yield of the deep springs of the district may be estimated in round numbers at 61,000,000 gallons daily, of which quantity 51,000,000 have been ascertained by Mr Napier not to exceed 1 degree of hardness, and the remaining 10,000,000 is considered by him to be under 2 degrees of hardness.'

The only objectionable qualities known to inhere in Bagshot spring water are, the presence of iron and an excess of carbonic acid. The carbonic acid would act in corroding the lead and iron pipes. It still requires to be ascertained what is the extreme amount of these injurious ingredients, and how far precautions may be taken against them. The promise of spring water of such remarkable softness naturally holds out great attractions to the inhabitants of the metropolis.

After the search for sources of supply has been completed, and a rigorous comparative examination made into the qualities of all the different waters, there will remain the consideration of engineering cost, and on it will depend the final decision of the question.

The future administration of the Metropolitan Water Supply presents far greater difficulties than the choice of the water. The General Board of Health recommend that it should be intrusted to a small paid commission appointed by the crown, and having also the management of the sewage. The absence of any municipal body for the metropolis at large makes its local administration a peculiar case; and the sewage is already in the hands of a Government Board.

ANCIENT SCANDINAVIA.

‘THE recollections which Scandinavia has to add to those of the Germanic race, although of later date, are yet the most antique in character, and comparatively the most original. They offer the completest remaining example of a social state existing previously to the reception of influences from Rome, and in duration stretching onward so far as to come within the sphere of historical light. Thus the history of the North resembles its physical nature, in whose rocks and mountains the primitive formations lie open to the day, while in southern lands they are covered by more recent deposits.’ In these words the Swedish historian Gleijer has truly described the great points of interest connected with the history of his own country, as well as with that of Norway and Denmark—a history which gives the clue to the early social organization, manners, and customs, of the various barbaric tribes who at different periods assailed, and ultimately subverted, the Roman Empire; and who, though in their turn they succumbed to the influence of Roman civilisation, and in consequence lost many of their ancient characteristics, nevertheless contributed to leaven the corrupt society of antiquity, and together with Christianity gave a new impetus to the moral civilisation of the world. Teutons and Saxons, Franks and Longobards, Germans and Goths, were all akin in language, customs, manners, and institutions; and to the nations who number these tribes and races among their progenitors, the ancient religion, laws, domestic manners, and social organization of the Scandinavians are therefore of great importance—and, above all, they must be so to the inhabitants of Britain, in whose veins flows so great an admixture of Northern blood.

Who were the earliest inhabitants of Scandinavia? is a question which has been as variously answered as similar questions relating to the first inhabitants of other European countries. Several Greek and Roman writers of antiquity, from Herodotus downward, allude, it is true, to nations dwelling in regions on what seemed to them the ultimate confines of the earth, and which are supposed to have been the Scandinavian countries; but these allusions are couched in terms so vague, that the most conflicting opinions have been founded on their testimony. That the present inhabitants of the Scandinavian countries belong to the great Gothic-Germanic race, admits of course of no doubt; but the question as to when the Goths arrived in these regions, and as to whether they were

the first and sole occupants of the countries, has been differently decided, according to the various biases and theories of the writers who have treated of the subject: some assigning a very remote, others a comparatively recent date to the first immigration of the Goths. In the *Eddas*—the earliest records extant of Scandinavian mythology, and which are supposed to embrace not only the theogony and cosmogony of the people, but also the traditions connected with its earliest history and first settlement in the lands of its adoption—the *Asas*, or gods—probably the founders of the nations—are represented as engaged in constant warfare with powerful and gigantic beings called *Thurses*, *Jetter*,* and *Jötners*; as also with a weak but crafty and faithless race of dwarfs or *Scartalfer*; and mention is made of more friendly relations entertained with certain *Lysalfer*, whose name denotes beings of a beneficent character. These beings, it is now generally believed, represent races in possession of the countries before the arrival of the Goths, and who resisted their occupation of the territories; though some Scandinavian historians entertain the opinion, that these early myths relate to events occurring during the migrations of the Goths through the vast territories which extend between the cradle of the race in the interior of Asia and the countries of Northern Europe, where one of its branches ultimately settled. The former hypothesis seems in a measure supported by the archaeological monuments of the Scandinavian countries, which, after being subjected to careful examination, analysis, and criticism, have been classed according to three different periods, and prove beyond a doubt that three different populations, having attained various degrees of development, have succeeded each other in these regions; yet the earliest of them must have been separated from the latest by so many centuries, that it is hardly credible any knowledge of the one nation can have been possessed by the other. Should, therefore, the mythical beings to which we have alluded really be personifications of the earliest occupants of the lands, we must suppose the accounts of them to be founded not on personal, or even traditional knowledge, but on notions of what they must have been, derived from the character of the monuments of their existence remaining in the country.

The most important archaeological monuments in the Scandinavian countries are the graves, which, in the form of earthen tumuli, or assemblages of large stones, are scattered throughout the length and breadth of the lands; and which, from differences in their construction, from the different modes of disposing of the bodies of the dead, and from the distinct character of the weapons, and various other articles found in them, are distinguished as dating from three different periods, and are thus brought within the three ages according to which it has of late become usual to class all Scandinavian antiquities—namely, the Age of Stone, the Age of Bronze, and the Age of Iron. These denominations are borrowed from the material chiefly used in the manufacture of the weapons and other articles belonging to the different periods. Monumental representatives of the three ages are not, however, found equally in the three Scandinavian kingdoms; and by their presence or absence antiquarian criticism and analogy have been enabled to establish facts relative

* The letter *J* in Scandinavian languages has the same sound as *F*.

to the chronological order in which these three kingdoms have been peopled. The graves from the Age of Stone, which are found in Denmark, and in the south and western parts of Sweden alone, resemble in every essential feature the rude sepulchres of the early populations of various other countries of Europe—such as Great Britain, Holland, Northern Germany, the southern and western parts of France, Spain, and Portugal, but not Italy, Southern Germany, and the more eastern parts of Europe. The grave-chambers are formed of several blocks of stone of irregular shape, and generally from 6 to 8 feet high, and from 2 to 3 feet thick, placed so as to form sometimes a circle, sometimes a quadrangle, and sometimes a triangle, and covered over with one immense block of stone, frequently from 30 to 40 feet in circumference. They are, in the greater number of instances, erected on low earthen mounds, varying from 60 to 400 feet in length, and from 16 to 40 feet in breadth, and being surrounded at the base sometimes by a single, at others by a triple row of large irregular blocks of stone, placed in an upright position, and forming a kind of enclosure to the grave.* The labour that must have been expended on the erection of these sepulchres may be judged from the fact of their being frequently found in localities where stones are very rare. The outer sides of the stones forming the grave-chamber are left in a rough unhewn state, but the inner sides present in all cases a flat and smooth surface. The interstices between the large blocks are filled up with chips of stone, so as effectually to exclude the light and air from the resting-place of the dead, and the floors are paved with small flat stones, or with flints, which bear the appearance of having been exposed to fire. The more important among these sepulchres, in point of size, have an entrance regularly walled in and covered over in the same manner as the grave-chamber itself; but in the majority of cases the entrance is merely indicated by two upright stones, or by a row of smaller blocks placed down one of the sides of the mound. The sepulchral furniture is as primitive in material and fabrication as the graves themselves, and prove these to be the last resting-places of a people which, though it had made the first step towards civilisation by renouncing a nomadic life, was little advanced in the path. The mouldering bones of the dead are found in heaps on the bare ground, proving that the bodies were committed to the grave in their natural state. Along with them are found rude weapons and utensils of stone and bone—such as hammers, hatchets, chisels, knives, spear-heads, arrow-heads, fish-hooks, &c. showing the people to have been ignorant of the use of metals, but giving evidence of that striking ingenuity and all-conquering patience and perseverance which in the present day characterise the savage nations with whom we are acquainted. In addition

* In Scotland and Ireland, where such sepulchres are common, they are termed *Cromlechs*, meaning in Celtic ‘circles of stones.’ Their real character was totally unknown until the Danish antiquaries commenced, about forty years ago, their intelligent researches. Among Scottish and Irish antiquaries, the most prevalent idea was, that they were altars for human sacrifice, notwithstanding that the upper side of the stone, whereon the victim was supposed to have been laid, was invariably rounded or angular, while the smooth or flat side was undermost. It seems worthy of remark, that in Scotland and Ireland the appellation is a Celtic word, not significant of the purpose of the structure. This seems to show that the Celts were a subsequent people, to whom that purpose was as much a mystery as it has recently been.

to the articles already enumerated, there are found in the sepulchres others made of amber, which have probably served as personal ornaments; and several articles of pottery, which, though also of rude shape and manufacture, nevertheless prove an attempt at ornament and beauty.

Besides the graves already described, there are others, belonging to the same period, of a more imposing character, and the superiority of which leads to the inference that distinctions of rank and wealth must have been established among the people, of whose existence these graves, and the articles found in them, are the sole records. These last-mentioned sepulchres, which are in the popular language of the north called *Jettestuer*—that is, chambers of the giants—are in form and general construction similar to those first described; but they are of vaster dimensions, the blocks of stone of which they are built being also of a still more massive character, and instead of being situated on the top of slightly-elevated mounds, they occupy the centre of large barrows of earth heaped up around them. Within, the largest of these subterraneous grave-chambers measure from 16 to 24 feet in length, and from 6 to 8 feet in width, the height being such as to allow of a man of ordinary stature standing upright. The entrance-passages opening in the side of the barrow are frequently about 20 feet long, and are walled in and covered over in the same manner as the grave-chambers. From the number of skeletons found in each sepulchre, it is thought probable that they have served as family burial-places; and from the position in which the bones of the skeletons have been found, it is concluded that, to economise space, the dead were buried in a sitting posture. Some of the *Jettestuer* are divided into small square compartments, each containing one skeleton. In some, human remains are found even in the entrance-passages; and in all cases these passages, as well as the sepulchral chambers, are filled in with earth carefully stamped down. In addition to the human remains and the manufactured articles discovered in these graves, horses' teeth, bones of dogs, stags, elks, and wild boars, have been found in them, showing what were the animals inhabiting the country at the time. While the graves have thus contributed their share to the history of Denmark during a period computed to be removed from ours by some thirty centuries, the bogs, which must at that time have formed considerable lakes, have also given up some of the secrets committed to them, and place us in a condition to form a still clearer notion of the nature of the country, and of the inhabitants and their modes of life. From these bogs there have frequently been extracted human bodies, preserved from corruption by the peculiar chemical properties of the bog water, and clad in garments of untanned hides, sewed together in a most primitive fashion with narrow strips of the same material, the foot-covering being likewise made of one piece of leather sewed together behind, and attached to the feet with leathern thongs. From the fact of their having constructed sepulchres requiring such a vast amount of labour, this people are concluded to have been a settled, not a nomade race; and from the localities in which the graves are chiefly found, from the nature of their weapons and utensils, as well as from the fact of the country being at the period of their dwelling in it covered with large forests, peopled with many species of animals now extinct in these regions, it is supposed that they inhabited the coast lands only, and that they lived by hunting

and fishing. For the last-mentioned purpose, as also probably as a means of conveyance, they seem to have availed themselves of canoes made of the trunks of trees; for specimens of boats of this kind have been found in the bogs, bearing evidence of having been scooped out with the aid of fire, in the same manner as the Indians in the South-Sea Islands, when first discovered by Europeans, used fire to assist the slow processes of their blunt stone utensils; and the same contrivance has probably been had recourse to when the tree was to be felled.

Though the antiquities above alluded to enable us to form a pretty clear conception of the intellectual and moral development, the modes of life, and the degree of material civilisation attained by the inhabitants of Denmark and the south-west of Sweden at this remote period, to determine what race they belonged to is not so easy. According to the generally-received opinions, the Finns and the Celts were the earliest inhabitants of Europe; and as remnants of the former race still linger in the northernmost provinces of Sweden and Norway, and the description of them given by Tacitus at the commencement of our era represents them as being in a state inferior rather than superior to that which the antiquities prove to have been the condition of the people inhabiting Denmark during the Age of Stone, it has been generally assumed, until a very recent period, that this people did indeed belong to the Finnic race, particularly as weapons and utensils of stone similar to those of Denmark are also found in Sweden and Norway. To this, however, modern archaeologists reply, that the similarity existing between the stone weapons and utensils of Denmark and the two other Scandinavian countries, is not sufficient to prove the identity of the race inhabiting the several countries; because in America, Japan, and the Polynesian islands, as well as in Europe, such tools and weapons have been found; and far from being characteristic of any particular race or nation, seem to be common to the human species in a certain stage of development. On the other hand, it is argued, the absence in the northern and eastern parts of Sweden, and in Norway, as well as in the other countries at present inhabited by populations belonging to the Finnic race, of those peculiar sepulchral monuments which have been noticed above, and which would never have been reared by nomadic tribes, places it beyond a doubt that the earliest inhabitants of Denmark were of a different race from the early Finnic inhabitants of Sweden and Norway, who, when they were driven from their southernmost position in those countries, withdrew gradually farther northwards, without leaving behind them any such lasting monuments to record their original occupation of the territories they were forced to abandon. Similar archaeological reasons militate against the hypothesis, that the ancient inhabitants of Denmark were Celts; for the Celts burned their dead, a custom which, as we have seen, was not followed by the people who erected the *Jettestuer* and other stone sepulchres of Denmark; and they had, besides, at a very early period attained a degree of civilisation more in accordance with that manifested in the Scandinavian antiquities belonging to the second than to the first period. As has been observed, mounds and sepulchres similar to those of Denmark are discovered along all the western shores of Europe, consequently in the very countries where the Celts have dwelt, and in some cases still dwell; and it has therefore been supposed by some that

these sepulchres, and the primitive utensils found in them, as well as the custom of burying the dead, may have been in use among the Celts during the earliest period of their settlement in Europe, and before they became acquainted with the use of metals. This is, however, again rendered improbable by the fact, that in Southern and Central Germany—territories which this race is believed to have inhabited before they were pushed further westward by the Germanic tribes, and which must have witnessed the earliest stage of their development—no sepulchres or other archaeological monuments of the kind described have hitherto been discovered. As far, therefore, as archaeological research has as yet gone, it has only led to the negative conclusion, that the pioneers of civilisation (for such the first *settled* tribes must be considered to be) in Southern Scandinavia were neither Finns nor Celts.

The antiquities belonging to the second period prove an immense advance upon the former. As implied by the name of the Age of Bronze, the various articles classed under this head are made of that mixture of tin and copper called bronze, which was so extensively in use among the nations of antiquity. They consist of various useful utensils—such as hatchets, knives, and others of a similar nature, among which is a sort of semicircular knife greatly resembling a sickle. Weapons of a less peaceful nature are, however, of much more frequent occurrence; and the workmanship expended on these proves how highly they were valued. The swords belonging to this period are double-edged, and rather short, being seldom more than about two feet in length, the hilt being sometimes of wood, fastened on with bronze nails, sometimes of bronze, in which case, however, the metal forms but a thin plate moulded over a form of clay. Some rare specimens have been found in which the hilts are in a similar manner covered with thin plates of gold, or are wound round with gold wires. The sheaths are of wood, sometimes lined within and without with leather, and tipped with metal. The distinguishing feature of these swords is, their having no guards to the hilt, which all those of the subsequent period have. Besides the swords, there are among the bronze antiquities numerous daggers, lance-heads, and war-hatchets, some of the latter of considerable size. Among the weapons of defence the shields hold a distinguished place, being round in form, and sometimes entirely of bronze, and highly ornamented. More frequently, however, it seems that only the middle piece of the shield, which more particularly protected the hand, was of bronze; the other part having probably been formed of wood or leather. Upon the whole, it is evident that it has been an object to economise the metal, as even the sharp-edged instruments—such as hatchets, &c.—are in many instances formed of a sheet of metal folded or moulded over an interior of clay.

The higher degree of civilisation existing during the Age of Bronze is likewise evinced in the numerous ornaments—such as diadems, hair-pins with large ornamental heads, combs, rings for encircling the neck, armlets, finger-rings, and brooches, all generally of bronze, but in some rare instances also of gold, and in each case worked and ornamented. Small vases of gold have also been found together with other articles belonging to this period, and are supposed, like similar vases of bronze,

to have been used as cinerary urns, the great distinguishing feature between this and the preceding Age being the custom of burning the dead. All the remains from this latter period prove considerable skill in the manufacture of metal, and a peculiar taste in ornamental designs. So decided, indeed, is the latter, as to have enabled archaeologists thereby to distinguish the gold and bronze articles of the Age of Bronze from similar productions of a subsequent era; and the northern antiquaries hope by the aid of these ornaments to be able to trace the relations which have existed at this early date between the different countries of Europe. That a people so far advanced in some of the arts of life, and possessing personal ornaments of so rich a character, cannot have been clad in the raw hides which constituted the wearing apparel during the Age of Stone, would follow as a matter of course, even had not small fragments of woollen tissues been found in the graves of the period. But the funereal circumstances of this epoch by no means answer in magnificence to the advance made in general civilisation. In outward appearance the graves resemble the barrows raised above the *Jettestuer*; but instead of stone fabrics like these, they enclose only the ashes of the dead, contained in small cinerary urns, or in a kind of rude attempt at a sarcophagus, formed of four small blocks of stone, with a fifth serving as a cover. These urns or sarcophagi are placed upon the bare earth, and the weapons and utensils of the deceased by their side, the whole being then covered over with a heap of small stones, and above and around this again rises the earthen mound. A mound once formed, it seems to have been the custom to introduce the ashes of other deceased in it on whatever point access could be most easily attained; for many of the sepulchral tumuli from this period have been found to contain numerous cinerary urns and bronze weapons, placed in them without any apparent regard to position; while many such have also been introduced into the mounds that cover the *Jettestuer*. The tumuli belonging to the Age of Bronze seem in preference to have been raised on the highest eminences in the localities where they are found, and particularly on such from whence the ocean may be discovered; a circumstance that leads to the inference, that the race whose remains they enclose have not been strangers to that love of the ocean which distinguished the roving Northern Vikings of a subsequent period.

An improvement in the manufactured articles of a country proving in general simply an advancement in the path of material civilisation, and not necessarily the immigration of a new race, might be concluded to have been the case in Denmark, and in Southern and Western Sweden also, were not the transition too abrupt, and did not the change in the mode of burial, which was evidently coincident with the introduction of the use of metals, and with the other advances in the arts of life, speak strongly for the latter conclusion. Instruments of stone, such as those that characterise the first period, are indeed frequently found in graves belonging to the second, and the presence of the skilfully-wrought metal weapons and ornaments might therefore be accounted for as booty made in war, or as the peaceful acquirements of commercial intercourse with more advanced nations, did not the total absence of these last-named articles in the grave-chambers of the Age of Stone, and the difference

in the mode of burial, prove the contrary. Their customary mode of interment is, it is well known, clung to with the greatest tenacity by all barbarous nations, and sudden changes in this respect have never been known to take place except as a consequence of their subjugation by foreign tribes; it is therefore but reasonable to conclude that among the ancient inhabitants of Scandinavia also the change could only have been brought about by similar means. The supposition that the metal weapons, utensils, and ornaments, have been the possessions of the rich, while the poor only have been reduced to the necessity of continuing the use of the more primitive stone articles, has been ably set aside by Danish antiquaries, who, referring to the sepulchres, observe that the idea cannot for one moment be entertained that the poor had been buried in sepulchres the construction of which required a vast amount of labour, while the remains of the rich were consigned to the earth with much less ceremony. On the other hand, the question as to whether the articles of bronze were or were not the manufacture of the country, seems to have been settled by the discovery of several bronze vessels still containing the form of clay over which they have been moulded.

That Southern Scandinavia must during this period have undergone great changes, and have enjoyed a comparatively high degree of civilisation, may at once be inferred from the antiquities. A nation in possession of metals, and the improved instruments manufactured from these, cannot have failed to apply itself to agriculture; and the countries must in consequence have been rapidly cleared of the immense forests which during the first period covered the fertile plains. The constant consumption of metals not produced in the country also presupposes active commercial intercourse with the tin and copper-producing countries—such as England; and the navigation of the open seas which this must have necessitated, again shows that an immense improvement must have taken place on the rude barks made of the trunks of trees which formed the only means of water communication during the first period; while the number of warlike weapons, and the taste and labour expended on their fabrication, prove the character of the people to have been warlike. The civilisation of the Age of Bronze having been limited to Denmark and the south and south-western parts of Sweden, must in consequence have belonged to a people distinct from that which occupied all the Scandinavian countries during the third period, designated as the Age of Iron, on account of the introduction of the use of that metal, which there, as in all other countries of Europe, marks the commencement of that gradual course of development and improvement which continues down to the present day, and which evidently, as regards Scandinavia, commenced in the more northerly parts of Sweden and in Norway. In Denmark and in the south of Sweden the civilisation of the Age of Iron did not, until a much later period, supersede that previously established. We cannot undertake to give an account of the reasonings and speculations of those who have marked all the fluxes and refluxes of population which have succeeded each other in Europe, up to the period when historical proof can be adduced for the establishment of each in the territories it at present occupies; and we must therefore limit ourselves to stating briefly the probabilities in favour of the hypothesis, that the authors of the civilisation introduced into Southern Scandinavia during the second period, were a branch of the

Gothic-Germanic race, and not Celts, as has been maintained by some. That nations belonging to the former race were established on the southern shores of the Baltic several centuries before our era, is, we believe, an undisputed fact; and as in Mecklenburg, one of the countries which in that case they must necessarily have occupied, and also in Hanover, numerous antiquities are discovered exactly similar to the bronze antiquities of Denmark, being, moreover, ornamented with the same peculiar designs, it becomes highly probable that tribes belonging to this race, which was early acquainted with the art of navigation, should have crossed the Baltic, and settled on the opposite shores; while others have perhaps moved by land also in a northerly direction; for throughout Slesvig and Jutland are found antiquities belonging to the Age of Bronze. What, however, we think places it beyond a doubt that the inhabitants of Southern Scandinavia must have been a branch of the same race which afterwards penetrated into the Scandinavian peninsula from the east, across the Gulf of Finland, is the fact of the same language having prevailed throughout the three Scandinavian countries from the earliest period of their history. No evidences of any differences in this respect are traceable even in their remotest traditions, though archæologists are of opinion that the civilisation proper to the last Gothic tribes which entered Scandinavia—and which may be traced by the monuments to have undergone several phases in Norway and Sweden before it reached Denmark—cannot be considered as having been thoroughly established in the latter country before the eighth or ninth century, consequently, at the highest, not above a century before the arrival of the first Christian missionaries; an epoch which may be reckoned as already coming within the historic period. It may also be observed relative to this point, that the ancient language of Scandinavia—which is now generally denominated the Icelandic, because in Iceland it has been maintained in its original purity, while in Denmark, Norway, and Sweden, it has undergone great modifications—was during the early period of Scandinavian history called the Danish language; an appellation to which it is not likely the other Scandinavians would have submitted had the Danes been the last among them to adopt the language. The identity of race can also alone account for the identity of traditions existing between Denmark and the two other Scandinavian countries; for though the early historians of each have endeavoured to prove for their own people a remote antiquity, and a long uninterrupted line of kings, it is nevertheless evident that the traditions on which their narratives are based are in very many cases identical, and that the customs and manners they describe are exactly the same; while the mythology of Denmark was also identical with that of the two other Scandinavian countries.

Were it not that the articles found in them are of a distinct character as to material, form, and ornamental design, the differences existing between the outward appearance of the graves appertaining to the Age of Iron in Northern Sweden and in Norway, and those appertaining to the second period in Denmark and Southern Sweden, might at first sight be supposed to be owing only to the difference in the natural features of the localities; for the former countries being mountainous and very stony, it would be easy to account in this manner for a diminution in the height and extent of

the earthen barrows, and a corresponding increase in the use of stone in the construction of the tumuli. The use of this material indeed prevails so much in these regions, that the greater number of sepulchral monuments are formed entirely of stone instead of earth. The stone heaps here alluded to surmount, or rather cover, plain oblong stone sarcophagi, and are of considerable size—some measuring 20 feet in height, and about 100 feet in diameter at the top, though not unfrequently situated on the summits of high cliffs. Others of smaller dimensions, measuring only from 2 to 4 feet in height, and enclosed by a row of blocks somewhat larger than those forming the tumulus, are however more common. In form, these stone monuments are various—some being round, others square, and others again, triangular, somewhat approaching in shape to that of the trefoil—a design which also frequently occurs in the brooches so common among the personal ornaments of those times. The mounds of this form are frequently decorated with a high stone placed in the centre, and one at each angle. The most remarkable graves of this period, and which are found in greatest number in Sweden, are the ship mounds, so called from their being evidently meant to imitate ships: for which reason they are supposed to have been reared above the remains of those bold Vikings whose deeds of depredation and daring spread the name of the Northmen far and wide during the middle ages. The ship mounds are generally composed of a mixture of earth and small stones, hedged in with a row of large blocks placed at short intervals from each other. These are oval in form, running to a point at each end, where rises a high stone placed in an upright position, and supposed to represent the stem and the bow of the ship. In some, the resemblance to a ship is further increased by a tall stone being raised in the middle to represent a mast, and by several rows of small stones placed transversely across the mound, to indicate the benches for the rowers. Graves of the different kinds here described, and the contents of which have invariably proved them to belong to the earliest part of the Age of Iron, when it was customary to burn the dead, are found in Sweden and Norway exclusively—the graves in Denmark, from the Age of Iron, appertaining all to the more advanced period supposed to have bordered on the Christian times. Specimens of graves belonging to this latter period have been opened in all the three Scandinavian countries, and indicate a great advance on the primitive simplicity. The fashion of burning the dead had been superseded by that of interment, and the large earthen barrows, in many instances of such dimensions as to warrant their being called hillocks, contain grave-chambers regularly built of timber, and some of them bearing evidence of warriors having been consigned to the grave fully equipped for war, in company with their horses fully caparisoned. The most remarkable graves of this kind, as yet known, are those of King Gorm the Old—whose reign marks the commencement of the historic period in Denmark—and of Thyra his queen, who, on account of her having built the famous wall Dannevirke (the bulwark of the Dances), in Slesvig, to protect Denmark from the invasions of the Germans, was honoured with the surname *Dannebod* (Pride of the Dances). These tumuli, which are situated in the village of Jellinge, near Veile, in Jutland—a place frequently mentioned in the annals of Denmark—are 70 feet high, and 500 feet in circumference. That raised above Thyra (the other, we believe, has not as

yet been opened) contains a grave-chamber built of thick oaken beams, and is 22 feet long, and 5 feet high. On its first being opened, the walls were found to have been covered with hangings of a woollen tissue, of which, however, fragments only remained. In it were found a silver goblet, several bits of painted wood—ascertained to be painted in oil, and the colours of which were still distinctly visible—a small figure of a bird made of metal, and some other insignificant objects, there being strong evidence of the grave, which originally without doubt contained many valuable articles, having been previously opened and rifled. As archaeological monuments, the graves of Gorm and Thyra are rendered still more interesting and important by the inscription-stones placed upon them, and which record the fact, that the one was raised in honour of Thyra by her husband, and the other in commemoration of both his parents, by their son Harald Blaatand (Bluetooth), the first Christian king of Denmark, who reigned towards the end of the tenth century.

The inscription-stones, or Rune-stones, as they are called in the northern languages, belong to the most important monuments in the Scandinavian countries; for though none record important political events, and by far the greater number are raised in commemoration of private persons, or of events regarding private persons only, many serve to fix historical dates, and others throw much light upon the customs, and even upon the laws, of the period to which they belong. Among the former may be reckoned those already mentioned, and another in the island of Funen, in Denmark, raised to the memory of a man named Ale Sölvegode, in the inscription on which the heathen god Thor is invoked; and among the latter, one in Upland, in Sweden, on which the then existing laws of inheritance may be traced. It is stated on this inscription-stone how the property on which it was raised passed, according to the rules of inheritance, first from father to son, then from son to mother, in consequence of the son having left no children; and then again from his mother, who died after having married a second time, to her mother, who erected the stone proving her title to the property. Small stones with inscriptions in Runic characters have also been found in graves from the Age of Iron; and similar inscriptions have been traced on various articles, such as rings, swords, &c. likewise obtained from the barrows. The Rune-stones are also of great interest and importance, as affording irrefragable proofs of the same language having prevailed throughout the three northern kingdoms during the early period of their history. One such stone, bearing an inscription in the old Danish tongue, and found a little south of the ancient wall Dannevirke, in Slesvig, might indeed be brought into court to settle the vexed question of the nationality of the Duchy, for which Danes and Germans are at present contending.*

The other antiquities belonging to the Age of Iron, and which are found in the graves, but in still greater numbers in the earth where there are no traces of sepulchres, are as follows:—various useful implements of iron, among which scissors, in form exactly like those of the present day, bucklers, swords, war-hatchets, lance-heads, spear-heads, and arrow-heads, all iron,

* Vorsaae, *Danmarks Oldtid*. Liljegren, Runlora. Klüver, *Narske Mindesmærker*. Svenska Magazinet. Antiqvariske Annaler.

and of excellent workmanship, the swords and bucklers in many cases richly ornamented with gold and silver; fragments of leathern belts, and of wooden and leathern cases of different dimensions, ornamented with figures wrought in gold and silver; gold and silver rings, or circlets of various dimensions and designs, some having evidently served to encircle the waist and the head, others the neck, the arm, and the finger; brooches and buckles of gold and silver, and of various designs; buttons of the same precious metals, and also of ivory; beads of bronze, glass, mosaic, amber, and rock-crystal; golden and silver goblets, large massive golden drinking-horns, as also the same vessels of horn and glass; wooden vessels of various descriptions, some hooped with metal rings; chessmen of bone, ivory, wood, &c. The extraordinary richness of many of these antiquities may be judged from the following specimens:—three massive golden circlets, of large size, were found on one spot near the town of Slagelse, in Zealand, the collective value of which, according to the present price of gold, is reckoned at about £500. A drinking-horn of the purest gold, found likewise in the earth, in Jutland in 1639, weighed 6 lbs. 13 oz.; and another, disinterred about a century later in the same locality, in a somewhat damaged state, weighed 7 lbs. 11 oz. Both were fashioned in the shape of ox-horns, the most usual form for drinking-vessels among the Scandinavians, and were ornamented with a great number of figures—some engraved in the metal, others forming reliefs, not worked in the same piece, but moulded apart, and afterwards rivetted on the plate.* Among the antiquities of the third period is also a very considerable number of foreign coins.

Independently of their greater variety and richness, the antiquities from the Age of Iron possess an interest different from those of the two other periods. In these we have no longer to trace, unaided by other data, all that relates to the history of extinct populations: they come in, on the contrary, to elucidate and authenticate the early history of the last race who took possession of the Scandinavian countries, and who still dwells unmixed in those lands. The earliest historians of the north, the Danish monk Saxo, and the Icelandic Snorri Sturlason, who lived towards the close of the twelfth and the beginning of the thirteenth centuries, both founded their histories on popular songs and traditions, partly still living on the lips of the people at the time they wrote, partly committed to writing in Iceland one or two centuries before. Both historians have in consequence, up to a certain period, given us myths and legends instead of facts; and their authenticity as regards the chronological order of events, the genealogy of kings, and the relation of particular events appertaining to the earliest period embraced in their histories, has in our day been much questioned, though fondly believed in by Scandinavian historians of the last century. So much, however, the carefully-collected and systematised antiquities in the northern museums prove for these oldest historians of the north, and for the still older Saga writers—that though they may in many instances have failed in tracing the proper line of demarcation between fiction and fact as relates to particular events, they have never-

* Henneberg om Guldhornene. These valuable antiquities unfortunately no longer exist: they were stolen from the museum of Copenhagen about forty years ago, and melted down before the thieves were discovered.

theless drawn a most faithful picture of the modes of life, the manners, customs, and laws of their people. What these have been we will now endeavour to learn from the written sources.

However rich in traditions the period at which Saxo and Snorri wrote, none seem, notwithstanding, to have existed relative to the origin of the Scandinavian nations; for Saxo begins his history with the name of a King Dan, of whom nothing is related except that he was the first ruler in Denmark, and that from him the country took its name (Danmark)—probably a purely etymological fiction; while Snorri for the commencement of his history seems to have borrowed and transplanted in the soil of history a hero from the religious mythology of the Scandinavians. According to Snorri, the Swedes entered the country to which they afterwards gave their name, under the leadership of Odin, a far-travelled warrior, coming from Asgaard, a city in Asaland, situated on the river Tanais, and who having with his followers subjected many countries, among which were Gardariga (Russia) and Saxland (Germany), ultimately dwelt for a while in one of the Danish islands, and then proceeded to Sweden, where he took up his abode, and established the religion, laws, and customs of Asaland. After his death he was burnt upon a funeral pile, and he and his sons were honoured as gods by the people.* Further on, Snorri relates how the Swedes, having multiplied in the country, and having in consequence found it difficult to subsist, penetrated through the great forests which separated Sweden from Norway, and founded kingdoms in the latter country, the Danes being at the same time mentioned as already constituting a powerful nation.

As none of the fragments of old Scaldic poems extant from the ninth, tenth, and eleventh centuries bear any traces of a tradition of the kind, relative to the arrival of the Swedes, having existed before Snorri's time, and he does not himself, as is his wont, quote any Scaldic compositions in support of this part of his history, it is probable, as has been suggested by Müller, that this connection of Odin with the history of the Scandinavians is in fact but an arbitrary interpretation of the religious myths, and that the mention of Asgaard and Asaland in the mythology has been Snorri's only authority for making Asia the birthplace of the people which inhabited the north. It is remarkable, however, that his manner of interpreting the myths should have led him to conclusions the truth of which modern scientific inquiry bears out; for the Asiatic origin claimed by him for the gods and the religious worship of the Scandinavians, is confirmed by the strong analogies traced between the cosmogony and theogony of the Asiatic nations and those of the Scandinavians as contained in the Eddas—the older of which was committed to writing in Iceland not above a century after the extinction of the primitive religion in that last stronghold of Scandinavian heathenism, while the more recent was collected by Snorri Sturlason. The account of the different countries subjugated by Odin and his followers on their way from Asia to Sweden also tallies pretty closely with the generally-received opinions as to the direction in which the Gothic race moved during its migrations. It is therefore not unlikely that in borrowing from the heathen mythology, Snorri in reality only restored to history what once belonged to

* Heimskringla. Ynglingasaga.

its domain; but by not acknowledging the loan, and by arbitrarily fixing the date of Odin's arrival in Sweden in the last century before Christ, he has created much confusion, and has led to the supposition that there have been several Odins in the north. However, our task is not with speculative disquisitions on this subject—we must leave aside whence the Scandinavians came, and when they came, and only consider what they were. The conceptions of the Northmen of the creation of the world and man, of the agencies, operations, and phenomena of nature symbolised in the Elder Edda, became in course of time mixed up with equally mythical embodiments of the moral, metaphysical, and psychological notions of the people, with heroic fables, and with narratives relative to the various events of life. With Odin, the Creator of all, as he is called in the Elder Edda, were gradually associated other gods, each exercising a peculiar influence on the fate of man; and thus a whole mythology was developed, strongly expressive of the character of the people, and in its turn reacting on and more fully developing that character. 'To gain by labour what might be won by blood, was considered the mark of a slavish spirit,' says a historian writing of this race in the early ages of our era; and such indeed is the character of their religion and their life. In their eyes cowardice was the most disgraceful of vices, valour the highest virtue, and combat the greatest happiness. To vanquish one, to attack two, to yield slightly to three, and to retreat from four, was the general rule of the Northern *Kæmper* or warriors; and to die quietly in their bed was considered by them the direst misfortune, for it excluded them from happiness in the next world. To avoid this exclusion, they frequently in old age put an end to their own life, after having in vain sought death in battle. Those only who had distinguished themselves by valour, and had died a violent death, were admitted to Odin's hall, Valhalla, the walls of which were formed of spears, the roof of shining bucklers, and which was lighted with flashing swords. On a green meadow outside the walls of Valhalla, the *Einheriar* (spirits of the departed heroes) enjoyed each day the delight of slaying each other in combat, and each day they rose again to recommence the joyous sport. This was followed up by a repast prepared of the boar *Saehwinnur*, which, butchered each day, revived in the same manner as the heroes, to contribute anew to their enjoyments. At the feast the mead-horn was handed round by the *Valkyrie*, Odin's handmaidens and messengers, who, during battle, marked with a spear those doomed to fall. Such heroes who had visited with bloodshed many lands, and arrived in Valhalla accompanied by the greatest number of enemies slain by their hand, were received with peculiar honour: on their entrance all the *Einheriar* rose, and the *Valkyrie* offered them the horn with wine, otherwise reserved for Odin alone. While such were the rewards awaiting the brave, the coward who had never shed the blood of an enemy was banished to *Helheim*, where ruled Hela, the horror-inspiring genius of the infernal regions, whose dish was called Hunger, her dwelling-place Misery, her threshold Treachery and Fall, her bed Slow Death and Pale Anguish. Here the spirits of the cowards were doomed to a joyless eternity of inactivity, trembling with fear at every sound which reached them from the upper regions.

With such principles and such a faith war became the aim of the Northmen's life. The limits of their own countries were too narrow for their burning thirst for action and for fame. These countries were, besides, at

that time poor and very partially cultivated, and hardly capable of supporting their populations; and every circumstance thus combined to drive the warlike youths into that wild Viking life for which nature seemed to have destined them, and which soon made their name the dread of all the seas of Europe. Each spring large fleets of Viking ships left the Scandinavian shores in quest of booty and warlike adventures. Trading vessels were captured, and their crews mercilessly slain, or reserved for the still more dreadful life of thralldom; the most fertile coasts were devastated, the inhabitants put to death or carried into captivity, and all their moveable property seized as lawful prizes of war; for though in our day we would stigmatise such proceedings with the name of piracy, among the Northmen they were looked upon as honourable warfare. Not all Vikings, however, were alike. Some made a profession of the Viking life. These rarely dwelt on shore, and had only a small castle, hid in one of the deep recesses of the many fiords that indent the Scandinavian coasts, where they hoarded their booty until they could dispose of it to advantage. This class was the most reckless and cruel: of them it was said that 'they never slept under a smoke-stained beam, or sat and drank in the chimney-nook.' They were accused of drinking blood and eating raw flesh; and their deeds of wild daring, ruthless cruelty, and treacherous cunning, earned for them the hatred and contempt of their equally warlike but less truculent countrymen, who looked upon them as robbers, and not as honourable Vikings. But there were other Vikings, who, far from persecuting the peaceful trader, protected him against their more reckless fellows, and who, though their mode of warfare was lawless, according to the notions of the present day, nevertheless invariably governed their actions by such rules of honour as were received among themselves.

Though Denmark, according to the testimony of the antiquities of the Age of Bronze, must have been in a comparatively advanced state of cultivation when the last tribes of the Gothic race entered Sweden, this country and Norway still presented the appearance of trackless wildernesses. Immense forests, extensive bogs, large lakes, steep, and rugged, and barren mountains covered the face of the peninsula in almost every direction; for the plains of Southern Sweden had already been taken possession of by tribes, probably belonging to the same people who inhabited Denmark. Under these circumstances, it cannot of course be supposed that the immigrating Goths at once spread over the whole Scandinavian peninsula, even in those localities where their occupation of the lands was not disputed by the above-mentioned inhabitants of the south, or by the roving Finnic tribes, who until then had held undivided possession of the more northerly regions. Probably the new-comers settled first in the most favourable spots, dividing themselves into tribes, each under its own leader, and gradually, as their numbers increased, sending out new offshoots to establish themselves in like manner, and to bring new territories under cultivation. The *Ynglinga Saga*, indeed, mentions with praise Brant-Amund, one of the last of the kings of the Yngling race, for his efforts to root out the immense forests that obstructed cultivation, and to bring the land under tillage. The ceremonies with which new territories were on these occasions taken possession of, may be concluded to have been in a great measure similar to those followed by the Norwegians and other Scandinavians, who

in the ninth century emigrated to Iceland; for as these people left their country in order to be able to maintain unchanged the laws, customs, and institutions they had inherited from their forefathers, they must be supposed to have acted on all important occasions in strict conformity with these. According to the *Landnamabok*, one of the most trustworthy of the Icelandic records, the manner of proceeding was as follows:—The chief of a family—with all his relations, retainers, slaves, cattle, household furniture, and all other necessities, and sometimes accompanied by friends and companions in arms who were willing to acknowledge him as their superior—set out for the place of abode he had chosen, in each case carrying with him the pillars of the high seat in his former dwelling, on which were carved the images of his gods. When the emigrants arrived within sight of land, the patriarchal chief of the future colony seized the high-seat pillars, and throwing them into the sea, invoked the protection of the god Thor. The spot where the wooden pillars drifted ashore was chosen for the seat of the colony, a house was at once erected, and the pillars placed in their usual position on each side of the high seat. Shelter having been provided, and the household gods installed, the father of the family proceeded to take possession of as great an extent of territory as he deemed necessary, and the limits of which he marked by walking round them with fire, or by bonfires lighted at equal distances from each other. After this ceremony, which was called ‘hallowing the land with fire,’ the lands were divided among friends and relatives; and all the holders of these portions formed together a community—a kind of clan, presided over by the chief of the emigration, who also performed the functions of priest in the temple, built close to his dwellinghouse, and for the maintenance of which each possessor of lands paid a tax, called *Hof-tollr* (temple-tax). In the neighbourhood of the temple were held the popular assemblies called *Thing*, where the freeborn men of the community came together to deliberate on matters relative to the commonwealth, and to settle, according to the laws and customs of the mother-country, any differences which might have arisen among them. In consequence of his position as priest of the temple (which, again, he held as chief of the community), the founder of the colony presided over the *Thing*, being supported by twelve other men, and holding in his hand the holy temple ring (probably a symbol of eternity), which had been bathed in the blood of the sacrificial animals, and on which all oaths were taken.*

The intimate connection between his position as the chief servant of the gods and as head of the community, is also expressed in the fact of the title enjoyed by him in his latter capacity being derived from that of the former function—*Gode* or *Godordsmann* indicating the priestly function, and designating at the same time the chief of the community, the latter being called *Godord*. In the course of time, as the emigrations to Iceland continued, and the established colonies increased in population, so great were the inconveniences felt in consequence of the arbitrary conduct of the many small independent communities, and the numerous contests arising between them, that, with the concurrence of the great mass of the inhabi-

* The golden rings found among the antiquities, and the size of which renders it probable that they should in any manner have been worn as personal ornaments, supposed to have been temple rings such as those here alluded to.

tants, a central court of judicature for the whole island was instituted in the form of a *Landthing*, or *Althing*, as it was also called. This assembly—which was presided over by a *Lagmand*, elected for the function, and was composed of the chiefs of each district, and other leading men of the country—voted such laws as were to be equally binding on every community in the island, and determined on all matters that concerned the whole state, which was thus constituted. The island was then divided into four quarters (*Fierdingar*), every quarter into three *Hærad*s, and every *Hærad* into three *Godords*; each of these subdivisions retaining its own Thing, where all local matters were discussed, and the *Godords* continuing to be governed according to their original constitution.* Evidences of a similar constitution of society are found in the old Swedish laws; and as Tacitus informs us that the armies of the ancient Germans were divided into hundreds, according to families, it is very likely that the wandering tribes of the Goths were organized in like manner, and that from this custom sprung the constitution of the *Hærad* (hundred), which is the most ancient in the north. At first the worship of the same gods has probably formed the only connecting link between the different small communities, until their gathering ultimately round some one great and distinguished shrine has gradually led to the merging of several into one. This is the more probable, as the presidency in the popular assemblies was always held in conjunction with that of temple-sacrificer or priest. The place of assembly was always contiguous to the temple; and the great periodical sacrifices thus necessarily connected with the periodical assemblies. In this manner, as well as by the violent subjugation of one tribe by another, in all probability arose the many petty sovereignties into which the Scandinavian countries were divided up to the tenth and eleventh centuries, and the rulers of which assumed the name of *Drot*, or king.

The virtues most valued in a king by a people so warlike as the Scandinavians were of course personal valour and military skill; and besides presiding in the Thing, and sacrificing in the temple, the kingly functions were pretty nearly restricted to leadership in war, for the subjects were little inclined to brook interference in other matters. But when an enemy attacked the country, and the king called upon the people to rise in its defence, the man who refused to obey was punished with outlawry, and branded with the name of *Nidling*—the severest term of scorn and opprobrium in the language of the north. When there was peace at home, it was customary to seek enemies abroad; and in general the northern *Kæmper* were invited each spring to accompany their king on some Viking expedition, during which descents were made on the neighbouring coasts. Towards winter the warriors returned with their booty, the largest share of which devolved to the king, and formed an important item in his revenue. When the expedition was over, each man returned to his home; but though no standing army existed, the kings were, even at a very early period, surrounded by a small band of faithful followers, called *Hird*, which formed a kind of body-guard. From among these *Hirdsmænd*, who were maintained at the king's expense, and owed allegiance to him alone, were

* Landnæma. Arnæsen: Historisk Indledning til Islandsk Ret. Strinnholm: Svenska Folkets Historia. Skandinavien under Hednæ Aldern.

selected officers for the chief military commands, and governors for the subjugated provinces. These governors, called *Jarls*, often grew stronger than the sovereign, and ventured to resist his authority; and upon the whole, the king's authority depended more on his personal qualities and his good-luck in war, than upon any other guarantees; for the people considered it disgraceful to be governed by a cowardly and unfortunate king, attributing to the dissatisfaction of the gods with his rule any misfortunes, such as famine or pestilence, and not scrupling to dethrone him, or even to put him to death. In addition to their share of the booty made in war, the kings derived, in their capacity of chief sacrificers, a revenue from the temple-tax; and as the executors of the law, they received a share of the fines and compensations paid for legal offences; but their principal income was derived from the crown-lands in different parts of the country, which were administered by stewards, and on each of which was a royal dwelling, where the sovereign resided when he made his periodical tour of the kingdom. When the throne became vacant, the people assembled in the Thing to elect a successor, who was most frequently (and in the remotest times it seems invariably) chosen among the nearest kindred of the deceased, with the exclusion of the females, who had among the Scandinavians no right of inheritance. The Thing was always held in the open air, and the spot where the assembly met was surrounded by a sacred fence, generally of hazel twigs, held together by ligatures, which were termed *Vebünd* (sacred bonds). This sacred fence once removed, the Thingplace lost its character of inviolability, the deliberations of the assembly were exposed to disturbance, and its resolutions no longer binding. An instance is related in *Egils Saga*, of a Queen Gunhild, who, being present at a Thing where matters were taking a turn contrary to her interests, bribed some individuals to cut the sacred bonds: the proceedings were at once concluded, the place of assembly was considered desecrated, the holy Thingplace violated, and the assembly dissolved.

At first the spots of ground consecrated to the gods, and within which sacrifices were performed, differed in nowise from the Thingplaces, except by the presence of the stone altar in the middle. Regular temples of wood seem, however, to have been erected at an earlier period, and the Sagas, as well as contemporary foreign writers,* describe in glowing colours the splendour of the Scandinavian temples. They were frequently of considerable dimensions, were surrounded by a sacred enclosure, and within were covered with hangings, probably similar to those in the grave-chamber of Thyra Dannebod, already alluded to. Round the walls were benches, on which were seated wooden images of the gods, all clad in costly dresses, glittering with gold and silver. No one was allowed to enter the temple with arms in his hands, no uncleanness was suffered to come within its precincts, no deed of violence to be there committed. Far from serving as places of refuge for criminals, as the Christian churches in the middle ages, robbers, murderers, and other persons who had in any way suffered their honour to be tarnished, dared not show themselves in the vicinity of a Scandinavian temple; and he who in any way violated its sacred peace and purity, was called

* Adam of Bremen.

Yagr i Veum, was considered the greatest of criminals, was declared outlawed upon earth, and excluded from all hopes of entering Valhalla. As among all heathens, the principal part of the Scandinavian worship consisted in sacrifices, which were offered up at stated periods of the year. Three great sacrificial feasts in particular were sacred to the Scandinavians: the harvest sacrifice, at which they offered up their thanks for the benefits received; the spring sacrifice, at which they endeavoured to propitiate the gods in favour of the intended Viking expeditions; and the Yule sacrifice, which was spent in merriment and feasting. The Yule festival began on the evening of the shortest day, and its object was to implore a good year, but it was particularly devoted to conviviality, and lasted many days. During this period all feuds ceased; friends made appointments with each other to meet at the chief temple, and interchanged presents; and those who could not come sent their offerings nevertheless. Various animals—such as bulls, horses, goats, sheep, hawks, and cocks—were sacrificed to the gods; but at the Yule feast a boar was the chief sacrifice. After the animals had been killed, the officiating *gode* drew auguries from the intestines and the flowing blood, which was next sprinkled upon the walls of the temples, upon the images of the gods, and upon the assembled multitude. The flesh of the animals was then cooked in large caldrons over fires lighted on the floor of the temple, and was afterwards partaken of by the assembled worshippers. During the repast, toasts were drunk in honour of the gods: one for Odin, one for Frei, and one for Brage, the god of eloquence and poetry. One toast also was devoted to the memory of the dead. In times of great danger or disasters, the Scandinavian sacrifices, however, assumed a more gloomy character: then human beings were immolated to appease the wrath of the gods; but these dreadful scenes do not seem to have been of frequent occurrence. Among the antiquities of the north are some large copper or bronze bowls, which it is supposed were used in the sacrifices to receive the blood of the victims.

The instincts of liberty which seem to have guided the ancient Scandinavians in the foundation and organization of all their institutions, are, we think, nowhere more manifest than in the means by which the priests of gods held in such high reverence were prevented from forming an exclusive and usurping caste in the state, as was the case among almost all the nations of antiquity. It was the chief, whether of Harad, *Fierding*, or kingdom, who performed the functions of the temple, and who in his quality of civil and military leader derived increased authority from his holy functions, but who, from the very fact of his holding these diverse situations, was obliged to appear in the public assemblies of the people, to account to them for the manner in which he exercised his power, and to receive from them the laws according to which he was to rule. It is curious to see how those highest *desiderata* of government, which subsequently other nations have endeavoured to develop, from a scientific and reflective appreciation of their benefits, were apparently instinctively embodied by these barbarians, and by the cognate race of the Anglo-Saxons.

The freedom of appropriating to themselves as much land as they desired, which was enjoyed by the first settlers in Iceland, and no doubt

equally so by the early settlers in the Scandinavian peninsula, was afterwards limited in both countries when the extent of arable soil and the amount of population were no longer in so great disproportion to each other. The laws of Iceland afterwards made it a rule that no man should take more land than he could ride round with fire in one day; and so likewise the ancient laws of Sweden prescribe rules to be observed on such occasions. But when these laws were observed, and the soil brought under tillage, the property called *Odal* belonged by right to the possessor and his heirs in perpetuity. No power of interference therewith was recognised; and it appears that in the earliest times, when on particular occasions tribute was paid to the king, it was considered a voluntary and personal contribution, not a tax on the land.* The *Odalbonde* † ruled with sovereign power in his home; he was the master of the house, the head of the family, the judge and the priest, and exercised a patriarchal authority over his wife, his children, and his domestics. But, on the other hand, the father of the family was responsible for all the acts of his household; he was bound to make amends for any injury which they might cause to others, as also to avenge any injury inflicted on them. The *Bonde* alone had any political weight in the state; he alone could meet on the Thing to deliberate and give counsel on the affairs of the commonwealth; he alone, in cases of internal dissensions, could give evidence for or against the king and the king's servants; he alone was deemed sufficiently independent to enjoy on all occasions the full confidence due to a man; and therefore he alone could be intrusted with those functions which comprised a public trust. To be born the heir to *Odal*-land was therefore a great distinction; and he who alienated such property was looked upon with contempt. Distinction of rights between *Odalbänder* there were none, but some distinction of ranks inevitably arose from the different degrees of wealth, from the glory redounding to descendants of distinguished heroes, and from the honours connected with leadership in war or peace, and with high positions in the king's service. Among the modes of acquiring personal distinction was also proficiency in some of the peaceful arts, and more particularly the *Scaldic* art. The *scald* whose songs bestowed that immortality on earth which it was the great ambition of the northern hero to acquire, was indeed courted by all; and the intense pleasure which the Scandinavians felt in listening to the deeds of their forefathers perpetuated in these songs also contributed to make the profession of *scald* one of the most honoured among them. But the armourer and the ship-builder, on whose skill depended so much of their success in war, also held a distinguished place in their esteem. A good sword was prized so highly that it descended from father to son through many generations, was sung of in the songs of the *scalds* under a particular name, and shed almost as great a lustre on the memory of the maker as the combats in which it was used shed upon him who wielded it. So likewise a good ship, the possession of which was looked upon as of infinite value. But it was above all things the feeling of being a freeborn

* Strinnholm: Svenska Folkets Historia. Allen: Haandbog i Fædrelandets Historie.

† In the present day, the word *Bonde* in the Scandinavian languages denotes exclusively a peasant or agriculturist, but in ancient times it designated every free-born holder of property.

Bonde, who recognised nothing above him but the laws which he himself contributed to make and to maintain, that swelled the heart of the Northman with self-conscious pride, and gave him that independence of character which distinguished him through life. The Sagas mention many Bänder who in riches and influence could vie with the mightiest Jarls, but who disdained to be distinguished by any other name than that of Bonde. Such was Oke, a Bonde in Werneland, who entertained in his house at one time the kings of Sweden and Norway and their suites, and who on their departure offered presents to each, as was the custom of the times. Such also was Hakon the Old, who protected a fugitive queen and her son from the pursuit of the incensed king; and Thekil, a rich Norwegian Bonde, who, when he was requested by Harald the Fair-haired to enter his service, replied that he would rather remain a simple Bonde, 'and would still consider himself as good as the greatest man in the realm.'

But in Scandinavia, as among all the nations of antiquity, below the freemen, who considered themselves as constituting the nation, there was a population of slaves, or *thralls*, as they were called, who might be bought, or sold, or killed like a herd of cattle, and ill-treated with perfect impunity; and here, as among the Greeks and Romans, slavery was intimately connected with the whole social organization. The freemen, being almost constantly engaged in war or Viking expeditions, had but little time to devote to domestic concerns—to cultivating their fields, and tending their herds, occupations which also they considered below their dignity. While, therefore, the Bonde attended the Thing, or spent his time in warlike expeditions by land or sea, the thralls performed the domestic services, which would otherwise have been neglected. Thralldom therefore continued in the north as long as the exclusively warlike tastes of the people; and not until the reduction of all the small independent sovereignties under one head, and the introduction of Christianity, had conjointly worked a change in the wild and predatory habits of the Northmen, did it begin gradually to die out. The first thralls were probably the nomade tribes inhabiting the Scandinavian countries at the arrival of the Goths, and who were reduced to this state by their conquerors. Afterwards their numbers were recruited by the prisoners who were captured in the wars and piratical expeditions, and who were sold in regular slave-markets, together with the merchandise and other articles of value which the Vikings had gained possession of. Crimes which were generally punished with death were also sometimes punished with thralldom, and even insolvent debtors were occasionally reduced to servitude. This kind of bondage was, however, less rigorous than that of the ordinary thrall, as the master had not in such cases full power over the bondsman. Instances are also mentioned of freemen, reduced to poverty, having voluntarily sold their freedom; but such an act was considered in the highest degree despicable, and dishonoured even the master who accepted the services of the slave. Upon the whole, the thralls were held in the deepest contempt, and considered prone to every vice, and incapable of any virtue. The language of the north possessed no more bitter term of revilement than that of thrall; and he who applied it to a freeman exposed himself to the most bloody vengeance. To die at the hand of a thrall was looked upon as the most disgraceful death; and to crown the misery of the slave, it was perpetuated even in the next world, for he was con-

sidered by nature a coward; and none but the brave and the free could enter the hall of Odin. But notwithstanding all these disadvantages, the condition of the thralls in the north was much superior to that of the slaves of the south. In the north they never existed in such overwhelming numbers as to lose their marketable value; they were, therefore, even from interested motives, more tenderly treated; and the morals of the people being so much purer than those of the Romans, they were never reduced to become to that degree the tools of the degraded passions of their masters, nor were they systematically demoralised, as among the Greeks, to serve as warning examples to the freeborn youth. The Scandinavian Bonde possessed no more thralls than he required for the cultivation of his fields, and for his other services; and though he might in anger strike his slave, he nevertheless in general treated him with humanity. Even the laws, though they did not directly interfere in defence of the slave, indirectly at least protected his infancy. The old Vestgötha laws, for instance, enacted that when a master would maintain a disputed right to a slave born in his house, he should swear and prove by witnesses not only that the child had been born in his house, but that it had been fed from the breast of its mother, that it had been properly clad, and that it had lain in a cradle. On all festive occasions also, whether private or public, the slaves were admitted to participation in the universal joy; were treated on a footing of equality; and whoever on these occasions inflicted an injury upon any one of them, was subject to the same fines as those paid for the infliction of a like injury on a freeman; whereas, under ordinary circumstances, the injury done to a thrall was calculated only according to the loss sustained by the master. Good masters also allowed their slaves to devote some of their time to working for themselves, and to purchase their liberty with the money thus gained: but the free-bought or free-given men did not attain the same rights as the freeborn, and the stain of thralldom was not considered blotted out until the third generation.*

War being in the eyes of the Northmen the end and aim of life, preparations for combat, and the acquirement of proficiency in all kinds of bodily exercises, constituted exclusively the education of youth; and as even in boyhood courage, strength, and agility were prized above all other virtues, to excel in the swimming, wrestling, leaping, running, and climbing matches, as also in all military exercises, was the sole ambition of those whose age did not yet allow them to try their strength in serious combat. That among a people of such warlike tastes and habits, and but little restrained by law, the field of battle was not always beyond the limits of the country, will be readily understood; and indeed the history of the times is made up of little else than narratives of bloody personal, family, or party feuds. The laws were, as has been seen above, proposed in the Thing, and accepted or rejected by the assembled people, and here also were all legal disputes settled, according to the simple sense of justice of the judges; but in some instances the law recognised in the individual the right to act upon different principles. Thus, with the exception of the worst crimes—such as treason, assassination, theft, violation of the

* Strupholm; Skandinavien under Hedna-Aldern. Geijer: History of Sweden. Allen: Haandbog i Fædrelandets Historie.

sanctity of the temple or of the Thing—all offences were punishable with fines, even homicide and murder coming within this category; but for the two latter offences custom exacted vengeance, and the law did not forbid it. 'I will not carry my dead son about with me in my money-bag!' is, in one of the Sagas, the answer of a father to the proposal of a compensation for the death of his son; and this answer illustrates the general feeling on the subject. But though it was considered disgraceful to allow the murder of a relative to be blotted out by the payment of a sum of money, and vengeance was looked upon as a sacred duty, the deed for which it was sought was not considered as dishonouring the perpetrator, unless it were committed in a cowardly and unfair manner. So great a difference was there made between assassination and the slaying of a man without any attempt at concealment, that, as stated above, the former was reckoned among the *ubodemal*, for which no compensation could be made; and extraordinary rules were laid down to enable a man, who had slain another in the absence of witnesses, to clear himself from the imputation of unfairness. He was to proceed at once to the house nearest the spot where the deed had been committed, and there make it known. If, however, this house were inhabited by relatives of the murdered man, the murderer was allowed to pass by and proceed to the next, at which he was also exempted from delivering his awful message in case it proved to be the dwelling of the dead man's kindred; but the door of the third dwellingplace he dared not pass, whatever were to be the consequences to himself. This was called *Viglysing* (proclamation of murder), and the obligation to seek vengeance incumbent on the relatives of the deceased was called *Vigarf* (inheritance of murder). At a later period, when endeavours were made to soften the manners of the people, the laws fixed the degree of relationship beyond which it was not allowed to take up the *Vigari*;* but in the earliest times it seems to have descended to the most distant relatives. If a father fell by the hand of another, his sons did not venture to celebrate his *Gravol* before they had avenged his death; and instances are on record of the avenger having tracked the murderer through foreign countries, and at length settled the bloody debt at the court of Byzantium. Even mothers and wives would rouse a son or a husband to follow up the stern law of retribution, were even his own life to be sacrificed in the attempt.

Another custom arising out of the warlike habits of the Northmen, was the frequent recurrence to single combat, or *Holmgang*†—the origin of our modern duels, which have deviated very little from their barbarian prototypes, except inasmuch as concerns the earnestness of the combatants; for when the Northmen sought each other in combat, it was not to go through some empty ceremony, at variance as much with the faith they professed as with the habits and principles of the times they lived in: they met according to the universally-received opinion of right in their day, to settle in blood some deadly feud, which would leave the one antagonist no peace while the other breathed. 'If,' says a fragment of the old heathen law which has been preserved, 'a man abuse another, and say

* Strinnholm.

† So called from the custom of settling the quarrel on some one of the small islands—*Holme*—so frequent on the coasts of the Scandinavian countries.

to him, "Thou art not a true man; thou hast not the heart of a man in thy breast;" and the other answer, "I am as much a man as thou art;" they shall seek each other where three roads meet. If he come who has given the challenge, but he come not who has been challenged, then the latter shall be deemed to be such as the other called him, and he shall not be allowed to take oath, nor shall his evidence hold good for man or woman. But if he come who has been challenged, and not he who has given the challenge, then he who has come shall three times call him *Nidding*, and he shall make a sign in the earth, to show that he has been ready for the combat; and he who gave the challenge, but did not meet, shall be so much worse a man, because he promised what he dared not perform. But if they both meet on the spot with arms, and he fall who has been challenged, then for him shall be paid half a *manubot* (compensation). If he fall who has given the challenge, who has used the worst terms of abuse, and who by his tongue has caused murder, then shall he remain uncompensated for.* The *Holugang* was also distinguished from an ordinary fray by the many rules laid down for the observance of the combatants, and the space allotted to them was marked off; and he who placed his foot beyond the limits, was considered vanquished.* Duels between heroes of great renown awakened a lively interest among their countrymen, who flocked to the spot to witness them. Among the various causes for which recourse was had to single combat, the desire of avenging the death of a foster-brother seems to have been of frequent recurrence. The connection expressed in this term is one of the most remarkable manifestations of the manly, earnest, and deeply passionate, though little demonstrative, character of the Northmen. Foster brotherhood was generally concluded between youths who had been educated together, or who had otherwise been thrown much into each other's society, and had learned to love each other's qualities; but was also entered into by men who had been engaged in hostile rencontres, and whose hostility in the course of an obstinately-sustained struggle gave way to feelings of warm admiration of each other's valour. The foster-brothers mingled their blood together, and made a solemn vow to stand by each other through life, in weal or woe, and to avenge each other's death. The bond thus constituted between them was considered more sacred than any tie of kindred; and the man who in any way betrayed the confidence of his foster-brother was considered a *nidding*, and shunned by all honourable men. Sometimes the vow to avenge the foster-brother's death was extended to a promise not to survive him, and many instances are recorded of the fidelity with which these vows were adhered to, even at the risk of violating the most sacred bonds of nature. Thus we are told in one Saga, that King Niorwe's son being engaged in a feud with the sons of Jarl Wiking, Niorwe's foster-brother, the old king addressed his son as follows:— "If thou slayest Wiking, I will not spare thee, for it shall not be said of Niorwe that he broke the vow which he swore to his foster-brother."† Another Saga‡ relates how

* Thorlacius: *Om Tvekamp i det hedenske Norden*.

† Thorsten Vikingsson's Saga.

‡ *Vatnsdæla Saga*. We have throughout this article quoted such Sagas only as the learned Danish investigator P. E. Muller has pronounced to be authentic, not fictitious narratives.

Eivind Särkner, having heard of the death of his friend Ingmund, said to his foster-son—‘Go and tell my friend Gautr what thou hast seen me do, and I think he will do likewise;’ and then drawing out his sword, he ran it through his own body. When Gautr was informed of this, he said—‘Now it beseems not Ingmund’s friends to live longer, and I will follow the example of my friend Eivind;’ and he acted accordingly. The custom among the Scandinavians of removing their sons from home when young, and placing them under the care of some respected Bonde distinguished for enterprise or valorous deeds, also lead to a connection—that of foster-father and foster-son—as intimate and affectionate as that of blood relationship, yet second in degree to that existing between foster-brothers, between whom subsequent enmity was considered so impossible, that when it did arise, it was attributed to malignant supernatural agencies.

In no one point is the moral superiority of the barbarous Northmen over the super-refined Greeks and Romans more clearly manifested than in the position which women held among them. The wife of the Scandinavian Bonde was his helpmate in every sense which we at present attach to the word. Chastity, modesty, good sense, a dignified deportment, and firm and energetic character, were more highly prized in a wife than riches and beauty, though the two last-mentioned qualities were not without their value; and though the superintending of the in-door domestics, and the attending to household matters, such as spinning, weaving, &c. were her more strictly legitimate functions, she was not excluded from the counsels of her husband on matters relating to his welfare and his honour. Indeed examples are not wanting of even the redoubtable northern Kæmper having been brought under petticoat rule. There was, however, no danger of their warlike ardour being damped by the influence of their wives; for the feelings of martial honour which characterised the people were in a most remarkable degree developed in the fairer sex also. Valour and martial renown, which, at a later period, after the institution of chivalry, constituted throughout Europe the chief claims of a man on female admiration, were from the earliest times prized by the Scandinavian maidens above all other manly virtues. They deigned not to notice a youth who had obtained for himself the unenviable epithet of ‘Stay at home,’ by which was meant one who did not go out on Viking expeditions in search of fame and riches; and it frequently occurred that a woman put forward the cowardice and mean disposition of her husband as her plea for demanding a divorce. The Sagas also record numerous instances of women encouraging their husbands and sons to brave resistance even unto death, and sacrificing themselves with them. In one Saga we are told of a warrior who, consulting his mother as to whether he ought to fly from enemies greatly his superiors in number, is answered by her, ‘Had I thought that thou wert to live for ever I would have wrapped thee in wool. Know that destiny reigns over life: it is better to die with honour than to live with shame.’

Whatever influence, however, the women exercised relative to matters not domestic, was solely owing to their individual qualities. The laws strictly limited the rule of the wife to the *Nykla Råd* (key government), the insignia of which was the bunch of keys delivered to her by her husband on the first day she entered his house; and in all other matters subjected her entirely to him. Without his permission, she was not

entitled to sell or to buy; she had no voice in the choice of a husband for her daughter; and could not even visit her relatives; and her husband could chastise her at his pleasure. Among a comparatively rude and uncultivated people, there must of course always have been many individuals ready to abuse the power thus held; and the fact is indeed proved, by laws against the ill-treatment of women, promulgated on the introduction of Christianity. Yet the manliness of character which distinguished the Northmen, and which made them consider every outrage upon a weak or defenceless person dishonourable, together with the moral superiority of the women, must have acted as a check. Even the myths of the Elder Edda show the disgrace attached to a man laying violent hands upon a woman. In one of the poems, Thor is represented as taking credit to himself for having beaten the female Jetter. Harbard replies: 'Shamefully didst thou act, Thor, in striking women!' and Thor excuses himself with their being more like she-wolves than women.

During the infancy of their children, the paternal authority of the Scandinavians, as of other heathen nations, in whose eyes human life was invested with no sacred character, extended over life and death. On each new-born child the father pronounced sentence, and according to this it was either brought up in its home, or exposed in the fields or the roadsides. Such exposure of infants belonging to wealthy families was, however, looked upon as disgraceful, except under extraordinary circumstances—as, for instance, when bad omens or unlucky dreams had preceded its birth, and caused fear of the infant being doomed to bring misfortunes on the family. The origin of this barbarous custom seems to have been the poverty of the country, and the difficulty of providing for the wants of a growing population; and therefore in subsequent times the poor only were suffered by public opinion to act in accordance with it. But the exposure or putting to death of a new-born infant was in no case an act punishable by law, except when the father had received the child in his arms and given it a name, after which ceremony the taking of its life was considered in the light of murder. Grown-up sons continued under the authority and control of the father as long as they dwelt in his house and ate of his bread; but when they quitted the paternal roof, and became independent men, responsible to the law for their own acts, their dependence on the will of the father likewise ceased; but filial reverence being a common virtue among the Scandinavians, as among all uncorrupted people, they always felt bound to listen to his advice with reverence and submission. The daughters never obtained the same degree of freedom: they passed from the guardianship of the father only when entering under that of the husband. Even regarding the choice of a husband, nominally the father's will alone was consulted, though that of the maiden was frequently ascertained beforehand. For the maidens were not, among this people, held in the same seclusion as among the more refined nations of antiquity. The moral worth of woman was recognised among the Scandinavians, and she was allowed to fill her place as a moral agent in society. Unmarried as well as married women mixed freely in the society of men, and were present at the public games and all festive gatherings. At table they presented the mead-horn to the male guests, first touching it with their lips when they would confer great honour, and receiving courtesy and respect in

return. When a young man intended to ask for the hand of a maiden in marriage, he prepared himself deliberately for the *Bönords-för* (wooing journey), as it was termed, and was generally accompanied by his father, his foster-father, or some near relative. If his suit were accepted by the maiden's father, the preliminary arrangements were at once commenced, the suitor offering presents to the bride's father, which were called *Brudkaup* (bride purchase), and the father bestowing in return a dowry on his daughter. The dowry thus conferred was looked upon as a compensation to the woman for being excluded from the right of inheritance, and was retained by her at the death of her husband, as also when he divorced her without a cause, or when she divorced him on account of bad conduct on his side; but was forfeited by any dereliction of duty on her side leading to divorce. The terms of the *brudkaup* having been arranged, they were confirmed in the presence of the relatives of both parties, by the bridegroom clasping the hand of the bride elect, and pronouncing some conventional terms. The betrothal was then complete, and the wedding might follow as soon as convenient to the parties, though often postponed for years; but a wedding which took place without such previous betrothal was called *Skjoldi-Bryllup* (hasty wedding), and was illegal. Though concluded with so much ceremony, the marriage-bond could, as far as law was concerned, be dissolved at pleasure, and polygamy even was permitted. This seems, however, to have been very rarely indulged in, except by the kings, who sometimes, from political motives, married several wives.

The houses of the poor among the Scandinavians consisted but of one apartment, which served at once as sitting-room, bedroom, and kitchen; the fireplace, built of large stones, being in the middle of the room, and the bedsteads ranged around the walls. Chimney there was none, the smoke escaping through an aperture in the roof, directly above the fireplace, and which also served to let in the light. When the state of the weather required it, this skylight might be closed with a frame covered over with a bladder, or a thin transparent skin, which kept out the rain while it admitted some slight portion of light. The dwellingplaces of the wealthier classes, though in the essential features very similar, were, however, fitted up with much greater comfort and luxury. A never-failing feature in the house of poor and rich alike was the high seat, or seat of honour for the father of the family, raised a little above the others, and having on each side the pillars on which were carved the images of the gods. Opposite to the high seat, and on a level with it, was another for the most honoured guest, who was thus, for the time, considered to be on equality with the head of the family.

The banquet-rooms of kings, Jarls, and very rich Bönder, which were often of considerable dimensions, frequently formed separate buildings apart from the dwelling-house, and were fitted up with great luxury. The walls were hung with brightly-burnished arms, shields, and helmets; or in other instances with tissues of bright colour, or were decorated with carved work. The benches were covered with rich stuffs from foreign looms, and the high seat and other seats of honour were even furnished with stuffed cushions. It being the custom among the Scandinavian *Kæmper* to take military service

for some years under foreign kings and rulers, and particularly under the emperors of Constantinople, who at one time had a Scandinavian body-guard, it was probable that these warriors brought with them from the luxurious South, and disseminated among their countrymen, a love of luxury not in harmony with their general habits and character. Hospitality was one of the leading virtues among the Scandinavians, as among all barbarous nations. The exhausted traveller had a right to a seat at every hearth: he was received with friendliness, was refreshed with meat and drink; and when he left the hospitable roof, was conducted on his way, if he were in fear of hostile parties. Even his bitterest foe had a claim upon the hospitality of the Northman, and the person of the guest was sacred, were he even the murderer of the son of the house. Before the higher duty the lesser fell to the ground, and under these circumstances, therefore, revenge was deemed dishonourable. Among the festive meetings none were held more in honour than the commemorative feasts called *Gravøl*—literally, grave-beer—given by the son and heir after the death of his father, and in honour of the latter. On these occasions all the relatives and friends of the deceased were invited, and his virtues and exploits formed the theme of conversation. Finally, the son proposed to the assembled guests to empty their beakers to the memory of his father, and at the same time promised solemnly to perform some exploit which should render him worthy of filling the place of his parent as head of the family. Not until this was done could he seat himself in the high seat, which was in future to be his place. At all other convivial meetings, drinking was the chief occupation: and as the power of taking in an unusual quantity of intoxicating liquors was reckoned among the qualities which graced a man, the guests vied with each other in draining those costly and curiously wrought horns and beakers, so many of which are described in the Sagas, and specimens of which are still extant; and so not unfrequently the friendly meeting ended in a fray. More frequently, however, the guests would gather round the most experienced warriors in the room, to listen to the narratives of their adventures and exploits. But if a scald were present, all others were silent, out of respect for his superior gifts, and his audience drank in with avidity the inspiring strains in which he sung the valorous deeds of their forefathers, and awakened in them a burning desire to distinguish themselves in like manner.

The scaldic art was carried to a considerable degree of perfection among this people. Its origin was traced to the gods, who were sometimes called *Liedsmidr* (song smiths), and poetry was designated *Asamaal* (language of the Asas). The songs of the scalds constituted, during the whole heathen period, the sole literature of the Scandinavians; through them alone were the thoughts, feelings, and experiences of one generation transmitted to another; and in listening to the scald, the people was not only listening to the inspirations of one individual mind, but to the pulsations of its own past life. Richness of imagination, penetration, and judgment were the chief qualities demanded in a scald. His knowledge was not only to embrace all the mythic songs of his predecessors concerning the gods and their struggles and adventures, as also of the heroic exploits of the *Kämpers* whose names had been deemed worthy to be transmitted to posterity, but he was to be acquainted with contemporary events, and to be ready to

celebrate in his songs those names and those deeds which they in their turn were to hand down to future generations. The scalds were therefore great travellers, and were warmly welcomed wherever they appeared; but they were feared as well as revered, for they could not only enbalm a name in honour, but they could also perpetuate its shame; and the Sagas relate many instances of proud and ruthless warriors turning pale at the threat of a *Nidrissa*—that is, a satirical or scoffing poem. Though some degree of flattery was permitted to the scalds in the presence of mighty kings and jarls whose names were the themes of their song, if they attempted to falsify facts they lost their reputation; for a poem being at the same time a history, was valued according to its truthfulness, and not only as a work of art.

Although the ancient Scandinavians were in possession of written characters—the so-called *Runor*—in the heathen times, these seem to have been used more for superstitious than for useful purposes. The superstitious notions attached to the *Runor* very probably arose from their having originally been known to a certain number of individuals only, who availed themselves of their superior knowledge to impose upon the multitude, as was the case with the priestly order among all the nations of antiquity. This is the more probable, as the word *Run* in the ancient northern tongue means secret; and this word was at the same time used to designate all science. The invention of the *Runor* was attributed to the Asas, and the mythological poems of the Elder Edda make frequent mention of the supernatural aid which Odin and the other Asas derived from the use of them. Modern research has proved that the Runic alphabet and characters of the Scandinavians, from which those of the Germans and the Anglo-Saxons are derived, were not a corruption of a more perfect alphabet, but that they possessed an undeniably primitive stamp, which bears a certain resemblance to the alphabet of almost all the early inhabitants of Europe—such as the Etruscans, the Turditanians, the Celtiberians, &c. but more especially a decided affinity to the Ionic, or most ancient Greek Alphabet;* and this again points to the East as the source of Scandinavian civilisation. This circumstance also seems to prove the correctness of Snorri's interpretation of the ancient myth; and if Odin really introduced Oriental forms of worship and Oriental civilisation into Scandinavia, it is probable that originally the priests have formed in these countries also an exclusive caste; that the *Runor* were known to them alone; and that this circumstance invested the letters with a mysterious character, which they retained even after the use of them became more generally diffused. The Sagas indeed mention two kinds of *Runor*—dark *Runor*, which were complicated and difficult to understand, and were used for exorcisms and other superstitious purposes; and simple *Runor*, which were cut in wood and the bark of trees, and were used for recording important events in a few pithy sentences, or for preserving the genealogy of the ruling families; but most probably the dark *Runor* were only arbitrary cabalistic signs used by the pretended sorcerers to impose upon the vulgar. The custom of cutting *Runor* in stone seems not to have been introduced until towards the close of the heathen period, and not to have become generally prevalent until after the introduction of

Christianity; for of the inscription-stones as yet discovered in the Scandinavian countries, amounting in all to about 1600, the greater number have been raised in commemoration of persons who had been converted to Christianity, and who had died, as it is expressed, 'in their white clothes'—that is, in their christening clothes. The small stones, or bits of granite with Runic inscriptions found in the graves, are, however, supposed to date from the heathen period. The stones raised above the heathen graves, and which were denominated *Bauta* stones, have no inscriptions; the names of the distinguished persons whose graves they marked were consigned to the memory of the people alone, and to the songs of the scalds. That this sufficed to keep alive the knowledge of the localities in which were situated the sepulchral barrows of the most celebrated heroes and wealthiest Bønder and chieftains, may be inferred from the Sagas, which relate instances of how the reverence generally felt for the restingplace of the dead was at times overcome by the desire of some warrior to obtain possession of the far-famed weapons of a predecessor, placed with him in the grave; or of some robber to become master of the gold and silver ornaments and other treasures buried with the dead. Such violation of a grave was, however, regarded with superstitious fear by the Northmen; and even those who ventured upon the act guarded themselves against its consequences by taking with them fire and a wax taper, both believed to be charms against witchcraft.*

The extraordinary luxury which, by the testimony of the written records, as well as of the antiquities, reigned in the North, even during the heathen period, when art and science in those countries were still in so very undeveloped a state, must partly have been the result of the constant depredatory expeditions of the Vikings to countries far superior to their own in riches, and in every essential of civilisation, but also partly (though in a much inferior degree) of peaceful commerce. Between the three Scandinavian countries a very lively commercial intercourse existed, but the northern traders, as well as the warlike Vikings, also visited more distant shores. Like all the early maritime nations, the Northmen made up in daring and enterprise for what they wanted in science and skill; and though their ships—of which the descriptions extant are very vague—must have been of very inferior construction, they ventured with them to traverse seas where, even in the present day the skill of the mariner is taxed to the

* It is a curious fact, that when the grave of Thyra Dannebod, alluded to above, was opened some years ago, and found rifled of its chief contents, a small piece of wax candle, which had probably been left there by one of the former visitants, was discovered in the graves-chamber. The extraordinary boldness with which the Sagas have narrated every circumstance connected with the burial of the dead, and with which they have described the various weapons, personal ornaments, and household utensils which the earth has given up to our examination, give them, irrespectively of all other considerations, a peculiar claim upon our confidence relative to those usages and customs also for which we have no such tangible vouchers. The only point relative to interments mentioned in the Sagas which has as yet not been distinctly verified is the burial of some renowned Vikings in their ships. In none of the tumuli hitherto opened have any distinct vestiges of ships or boats been discovered, though in some of the barrows of greatest magnitude in Norway there have been found numbers of the large copper nails used for ship-building—in some instances even placed in regular rows in the earth, as if the planks they had held together had rotted away.

ntmost. Money was not coined in the Scandinavian countries until the eleventh century, and commerce was therefore carried on partly by means of direct barter of goods for goods, partly by means of gold and silver rings,* bits of which were chipped off as required, and valued according to weight; but it is probable that the foreign coins, so considerable a number and so great a variety of which have been found in the earth, if not acquired by commerce, have at least been subsequently applied to its purposes. Though commerce was not neglected, cattle-breeding and fishing formed the chief resources of the people. Horses, horned-cattle, sheep, goats, and swine, were reared in great numbers.

Such as they appear in their religious faith and in their whole manner of living, such also the ancient Scandinavians appear in the history of Europe. Whenever their name is mentioned in the pages of the chronicles of other European countries, the page is marked with blood. There can be no doubt that in the ranks of the hordes of barbarians who at the commencement of our era assailed the Roman Empire, have been many Scandinavians; but as long as the whole Gothic-Germanic race was in movement towards the south, it was difficult to distinguish between the tribes from the different localities, and many different tribes have no doubt been confounded in the few names which appear in history. But after the fall of the West Roman Empire, when the Gothic and Germanic nations, which had until then dwelt on the shores of the Baltic, had moved farther into the interior, to occupy the conquered Roman territories, and the weakened tribes who remained behind had been subjugated by the Slavonic nations pressing forward from the east, then the Scandinavians begin to stand forth in history as a distinct people, and one which made the ocean its highway to riches and renown. Probably the northern Viking expeditions had begun long before that, for Tacitus mentions the Sueves as a powerful maritime nation, and modern antiquaries† maintain, what ancient historians have shadowed forth, that the Scandinavians at a very remote period made settlements in the Orkney and Shetland Islands, and in Scotland, and that the Picts descended from this people. But it was not until the long-protracted struggle between the Britons and the Saxons had ended in the utter subjugation of the former, and on the western continent of Europe new empires had been founded on the ruins of the Roman Empire, that the names of the Dani, Ostmanni (Norwegians), and Nordmanni—under which latter denomination more particularly were comprised indiscriminately the natives of the three Scandinavian countries—began to be mentioned in the chronicles of the times as a new scourge sent to the nations of Europe. England, Scotland, and Ireland became the first victims of these ruthless depredators, whose atrocious deeds are painted in the darkest colours by the Christian annalists of the times; but soon the Northmen spread the terror of their name over the south of Europe also. The coasts of Flanders, France, Spain, Portugal, Italy, and Greece were devastated by their piratical fleets, and even the burning shores of Africa felt the strong hand of the north. At first the Vikings appeared only in small numbers at a time, in the

* Rings of this kind, from which pieces have been broken, are frequently found in the earth.

† Finn Magnusen. Om Pieterne og deres Navns Oprindelse.

character of pirates more than of hostile armies; but in the ninth and tenth centuries the Viking expeditions assumed a new and more formidable character. No longer content with devastating the sea-coasts and the banks of the large rivers in the various countries—with plundering the churches and abbeys, in which the principal riches of the Christian countries were centered—with putting to death men, and women, and children, but more particularly the servants of that religion which they deemed their greatest enemy, and which they hated with the whole force of their passionate natures—the Northmen began to aspire to found empires, and in the course of these two centuries they conquered for themselves a footing not only in England, Scotland, and Ireland, but also in France, Italy, and Russia. The cause of this change in the policy of the Northmen was partly the facilities afforded to them by the distracted state of the various countries in which they founded principalities, but still more the changes which were taking place in their own countries. During these two centuries the many petty principalities into which Denmark, Sweden, and Norway were divided were in each of these countries brought under subjection to one ruler, and at the same time the Christian faith began to be preached, and gradually to supersede the old religion. Many chieftains were thus dispossessed of their territories; and numerous other persons who clung with affection to their ancient faith, customs, and institutions, and were disgusted with the new state of things, swelled the number of the roving Vikings, who now, no longer content with plunder, sought to gain a new home in place of the one they had lost. Not until they had succeeded in this respect, and not until the establishment of a stronger government and of the Christian religion gradually spread peace and order through the Scandinavian countries, and worked a change in the habits and character of the people, was Europe saved from the scourge which had for centuries ravaged its fairest provinces.

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I.

ONE night between twenty and thirty years ago a party were assembled in the drawing-rooms of a house situated in one of the most spacious squares of the great metropolis. The brightly-lighted lamps lent an additional lustre to yet brighter eyes, and the sprightly tones of various instruments accompanied the graceful evolutions of the dancers, as they threaded the mazes of the country-dance, cotillion, or quadrille, for waltz, polka, and schottisch were then unknown in our ball-rooms. Here and there sat a couple in a quiet corner, evidently enjoying the pleasures of a flirtation, while one pair, more romantic or more serious than the others, had strayed out upon the balcony, to indulge more unrestrainedly in the conversation, which, to judge by their low and earnest tones, and abstracted air, seemed deeply interesting to both.

It was now long past the hour 'of night's black arch, the keystone,' and the early dawn of a midsummer morning was already bestowing its first calm sweet smile on the smoke-begrimed streets and world-worn thoroughfares of mighty London, as well as on the dewy hay-fields, shady lanes, green hedgerows, and quiet country homes of rural England. The morning star, large, mild, and lustrous, was declining in the clear sky; and on the left of the lovely planet lay a soft purple cloud, tinged on the edge with the lucid amber of the dawning day. A light breeze just stirred the leaves of the trees in the square garden, and fanned the warm cheeks of the two spectators, as, suddenly silent, they stood feasting their eyes and hearts on the surpassingly beautiful scene before them, and marvelling at the remarkable purity of the atmosphere, which, in the foggy metropolis of Britain, seemed almost to realise the Venetian transparency of the pictures of Canaletti. Perhaps it may be as well to take advantage of the pause to describe the two lovers, for that they were lovers you have of course already guessed.

A handsomer pair, I am sure, you would never wish to see! The well-knit, well-proportioned figure of the gentleman bespoke at once activity and ease, while the spirited, intelligent expression of his countenance—dark-complexioned as that of an Andalusian—would have given interest to far plainer features. The glance of his dark eye, as it rested fondly on his fair companion, or was turned abroad on the world, told alternately of a loving heart and a proud spirit. Philip Hayforth was one who would have scorned to commit an ignoble action, or to stain his soul with the

shadow of a falsehood for all the treasures and the blessings the earth has to bestow; but he was quick to resent an injury, and slow to forget it, and not for all the world would he have been the first to sue for a reconciliation. Like many other proud people, however, he was open-hearted and generous, and ready to forgive when forgiveness was asked; the reason of which might be, that a petition for pardon is, to the spirit of a proud man, a sort of homage far more gratifying than the most skilful flattery, since it establishes at once his own superiority. But to his Emily Philip was all consideration and tenderness, and she, poor girl, with the simple faith of youth and love, believed him to be perfection, and admired even his pride. A very lovely girl was Emily Sherwood—gifted with a beauty of a rare and intellectual cast. As she now stood leaning on the arm of her companion, her tall yet pliant and graceful figure enveloped in the airy drapery of her white dress, with her eyes turned in mute admiration towards the dawning day, it would have required but a slight stretch of the imagination to have beheld in her a priestess of the sun, awaiting in reverent adoration the appearance of her fire-god. Her complexion and features, too, would have helped to strengthen the fantasy, for the one was singularly fair, pale, and transparent, and the other characterised by delicacy, refinement, and a sort of earnest yet still enthusiasm. Her hair, of the softest and palest brown, was arranged in simple yet massive plaits around her finely-shaped head, and crowned with a wreath of 'starry jessamine.' From the absence of colour, one might have imagined that her beauty would have been cold and statue-like; but you had only to glance at her soft, intellectual mouth, or to look into her large, clear, hazel eyes, which seemed to have borrowed their sweet, thoughtful, chastened radiance from the star whose beams were now fast paling in the brightening sky, to learn that Emily Sherwood could both think and love.

'Dear Philip,' she said at last in that low tone which is the natural expression of all the finer and deeper emotions, 'is it not beautiful? I feel at this moment as if I were almost oppressed with happiness—as if this were but an intense dream of love and beauty, that must, as sentimental people say, "be too bright to last." I never felt as I do now in all my life before.'

'Nor I neither, my Emily, my sweet little poetess; but I suppose it is because we love, for love intensifies all the feelings.'

'All the best feelings.'

'The whole nature I think. It is, for instance, more difficult to bear a slight from those we love than from a comparatively indifferent person.'

'A slight! but there can be no such thing as a slight between those who love perfectly—as we do. Are we not all in all to each other? Is not our happiness indivisible?'

'It is my pride and joy to believe so, my sweet Emily. I know in my own heart that the needle is not more true to the magnet than my thoughts and feelings are to you. It shall be the chief care of my life to save you from all uneasiness; but, Emily, I expect the same devotion I give: unboundedness from you, of all the world, I could not and would not endure.'

'Oh, Philip, Philip!' she said half tenderly, half reproachfully, 'why should you say this? I do not doubt you, dear Philip, for I judge your love by my own.'

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He looked into the truthful and affectionate eyes which were raised so trustingly to his face, and replied in a voice tremulous with emotion, 'Forgive me, Emily. I trust you entirely; but I had started an idea, the barest contemplation of which was insupportable—maddening, because of the very excess of my affection. In short, Emily, I know—that is, I suspect—your father looked for a higher match for you than I am. Report says that his prejudices are strong in favour of birth, and that he is very proud of his ancient blood; and the idea did cross me for a moment, that when you were with him he might influence you to despise me.'

'My father is proud; but, dear Philip, is nobody proud but he? And notwithstanding his prejudices, as you call them, I can assure you you are not more honourable yourself in every act and thought than he is. He has consented to our marriage, and therefore you need not fear him, even if you cannot trust me alone.'

'Oh, Emily, pardon me! And so you think me proud. Well, perhaps I am, and it is better that you should know it, as you will bear with it, I know, for my sake, my best, my truest Emily; and I shall repay your goodness with the most fervent gratitude. Yes, I feel with you that no cloud can ever come between us two.'

Emily Sherwood was the eldest daughter of Colonel Sherwood, a cadet of one of the proudest families in England; and which, though it had never been adorned with a title, looked down with something like contempt on the abundant growth of mushroom nobility which had sprung up around it, long after it had already attained the dignity which, in the opinion of the Sherwoods, generations alone could bestow. Colonel Sherwood inherited all the pride of his race—nay, in him it had been increased by poverty; for poverty, except in minds of the highest class—that rare class who estimate justly the true value of human life, and the true nature of human dignity—is generally allied either with pride or meanness. Of course when I speak of poverty I mean comparative poverty—I allude to those who are poorer than their station. In a retired part of one of the eastern counties, Colonel Sherwood struggled upon his half-pay to support a wife and seven children, and as far as possible to keep up the appearance he considered due to his birth and rank in society. Emily had been for two seasons the belle of the county balls; and the admiration her beauty and manners had everywhere excited, had created in the hearts of her parents a hope that she was destined to form an alliance calculated to shed a lustre on the fading glory of the Sherwoods. But, alas! as Burns sings—

'The best laid schemes of mice and men
Gang aft ajeer.'

During a visit to some relatives in London, Emily became acquainted with Philip Hayforth; and his agreeable manners and person, his intelligent conversation and devotion to herself, had quickly made an impression upon feelings which, though susceptible, were fastidious, and therefore still untouched. Then, too, the romantic ardour with which his attachment was expressed, the enthusiasm he manifested for whatever was great, good, or beautiful, aroused in Emily all the latent poetry of her nature. Naturally imaginative, and full even of passionate tenderness, but diffident

and sensitive, she had hitherto, from an instinctive consciousness that they would be misunderstood or disapproved, studiously concealed her deeper feelings. Hence had been generated in her character a degree of thoughtfulness and reserve unusual in one of her years. Now, however, that she beheld the ideas and aspirations she had so long deemed singular, perhaps reprehensible, shadowed forth more powerfully and defined by a mind more mature and a spirit more daring than her own, her heart responded to its more vigorous counterpart; and at the magic touch of sympathy, the long-pent-up waters flowed freely. She loved, was beloved, and asked no more of destiny. It was not, it may be supposed, without some reluctance that Colonel Sherwood consented to the demolition of the aerial castles of which his beautiful Emily had so long been the subject and the tenant, and made up his mind to see her the wife of a man who, though of respectable parentage, could boast neither title nor pedigree, and was only the junior partner in a mercantile firm. But then young Hayforth bore the most honourable character: his prospects were said to be good, and his manners unexceptionable; and, above all, Emily was evidently much attached to him; and remembering the days of his own early love, the father's heart of the aristocratic old colonel was fairly melted, and he consented to receive the young merchant as his son-in-law. The marriage, however, was not to take place till the spring of the following year. Meanwhile the lovers agreed to solace the period of their separation by long and frequent letters. Philip's last words to Emily, as he handed her into the postchaise in which she was to commence her homeward journey, were, 'Now write to me very often, my own dearest Emily, for I shall never be happy but when hearing from you or writing to you; and if you are long of answering my letters, I shall be miserable, and perhaps jealous.' She could only answer by a mute sign, and the carriage drove away. Poor, agitated Emily, half happy, half sad, leant back in it, and indulged in that feminine luxury—a hearty fit of tears. As for Philip, he took a few turns in the Park, walking as if for a wager, and feeling sensible of a sort of coldness and dreariness about every object which he had never remarked before. Then he suddenly recollected that he must go to the counting-house, as he 'was very busy.' He did not, however, make much progress with his business that day, as somehow or other he fell into a reverie over everything he attempted.

Nothing could exceed the regularity of the lovers' correspondence for the first two or three months, while their letters were written on the largest orthodox sheets to be had from the stationer's—post-office regulations in those days not admitting of the volumes of little notes now so much in vogue. At last Emily bethought herself of working a purse for Philip, in acknowledgment of a locket he had lately sent her from London. Generally speaking, Emily was not very fond of work; but somehow or other no occupation, not even the perusal of a favourite poem or novel, had ever afforded her half the pleasure that she derived from the manufacture of this purse. Each stitch she netted, each bead she strung, was a new source of delight—for she was working for Philip. Love is the true magic of life, effecting more strange metamorphoses than ever did the spells of Archimago, or the arts of Armida—the moral alchemy which can trans-

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mute the basest things into the most precious. It is true of all circumstances, as well as of personal qualities, that

'Things base and vile, holding no quantity,
Love can transpose to form and dignity.'

The purse was quickly finished, and despatched to Philip, together with a letter. Emily was in high spirits at the prospect of the answer. She danced about the house, singing snatches of songs and ballads, and displaying an unusual amount of gaiety; for, though generally cheerful, she was of too thoughtful a disposition to be often merry. Philip, she was sure, would write by return of post. How she wished the time were come! She knew pretty well, to be sure, what he would say; but what did that signify? She longed to feast her eyes on the words his hand had traced, and to fancy the tones and the looks which would have accompanied them had they been spoken instead of written. The expected day came at last, but the post-bag contained no letter for Emily. At first she could hardly believe it: her countenance fell, and for a few minutes she seemed much disappointed; but never mind, the letter would come to-morrow, and she soon began to trip about and to sing almost as gaily as before. But another day passed, and another, and another, and still no letter! Poor Emily's blithe voice was mute now, and her light step rarely heard. Sometimes she tried to read, or to play on the piano, but without much success; while her anxious looks, and the tear which occasionally might be seen to glisten in her eye, betrayed the trouble within. A whole week elapsed, a longer period than had ever passed before without a letter from Philip Hayforth—a fortnight—a month—and the poor girl's appetite failed, her nights were sleepless, and her drooping figure and pining looks told of that anxious suffering, that weary life-gnawing suspense, which is ten times more hard to bear than any evil, however great, of which we can ascertain the nature and discern the limits. Could Philip be ill? Could he—— No, he could not be inconstant. Ought she to write to him again? But to this question her parents answered 'No. It would be unfeminine, unladylike, undignified. If Mr Hayforth were ill, he would doubtless write as soon as he was able; and if he were well, his conduct was inexcusable, and on Emily's part rendered any advance impossible.' Poor Emily shrank from transgressing what her parents represented as the limits due to delicacy and decorum, and she would have died rather than have been guilty of a real impropriety, or have appeared unfeminine in the eyes of Philip Hayforth; and yet it did often suggest itself to her mind—rather, however, in the shape of an undefined feeling than of a conscious thought—that the shortest, best, most straightforward way of proceeding, was to write at once to Mr Hayforth, and ask an explanation. She could not herself see clearly how this could be wrong; but she supposed it must be so, and she acknowledged her own ignorance and inexperience. Emily was scarcely twenty; just at the age when an inquiring and thoughtful mind can no longer rely with the unquestioning faith of childhood on assertions sanctioned merely by authority, and when a diffident one is too timid to venture to trust to its own suggestions. It is only after much experience, or one of those bitter mistakes which are the great lessons of life, that such a character learns that self-reliance, exercised with deliberation and humility, is the only safeguard for

individual rectitude. Emily, therefore, did not write, but lived on in the silent, wasting agony of constant expectation and perpetual disappointment. Her mother, in the hope of affording her some relief, inquired in a letter she was writing to her relative in London, if the latter had lately seen Mr Hayforth. The answer was like a deathblow to poor Emily. Her mother's correspondent had 'met Mr Hayforth walking with a lady. He had passed her with a very stiff bow, and seemed inclined to avoid her. He had not called for a long time. She could not at all understand it.' Colonel Sherwood could now no longer contain his indignation. He forbade the mention of Philip Hayforth's name, declaring that 'his Emily was far too good and beautiful for the wife of a low-horn tradesman, and that he deserved the indignity now thrown upon his family for ever having thought of degrading it by the permission of such a union. And his darling child would, he knew, bear up with the spirit of the Sherwoods.' Poor Emily had, it is to be feared, little of the spirit of the Sherwoods, but she tried to bear up from perhaps as good a motive. But it was a difficult task, for she was wellnigh broken-hearted. She now never mentioned Philip Hayforth, and to all appearance her connection with him was as if it had never been; but, waking or sleeping, he was ever present to her thoughts. Oh! was it indeed possible that she should never, *never* see him again? No, it could not be; he would seek her, claim her yet, her heart said; but reason whispered that it was madness to think so, and bade her at once make up her mind to her inevitable fate. But this she could not do—not yet at all events. Month after month of the long dreary winter dragged slowly on; her kind parents tried to dissipate her melancholy by taking her to every amusement within reach, and she went, partly from indifference as to what became of her, partly out of gratitude for their kindness. At last the days began to lengthen, and the weather to brighten; but spring flowers and sunny skies brought no corresponding bloom to the faded hopes and the joyless life of Emily Sherwood. The only hope she felt was 'the hope which keeps alive despair.'

One May morning, as she was listlessly looking over in a newspaper the list of marriages, her eye fell upon a well-known name—the name of one who at that very time ought to have knelt at the altar with her. She uttered neither scream nor cry, but clasping her hands with one upward look of mute despair, fell down in a dead faint. For many days she was very ill, and sometimes quite delirious; but her mother tended her with the most assiduous affection, while her comfort and recreation seemed her father's sole care. They were repaid at last by her recovery, and from that time forth she was less miserable. In such a case as Emily's there is not only the shock to the affections, but the terrible wrench of all the faculties to be overcome, which ensues on the divorce of the thoughts from those objects and that future to which they have so long been wedded. There is not only the breaking heart to be healed, but the whole mental current to be forcibly turned into a different channel from that which alone habit has made easy or pleasant. 'The worst,' as it is called, is, however, easier to be endured than suspense; and if Emily's spirits did not regain their former elasticity, she ere long became quite resigned, and comparatively cheerful.

More than a year had elapsed since that bright spring morning on which

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she had beheld the irrefragable proof of her lover's perfidy, when she received an offer of marriage from a gentleman of good family and large property. He had been struck by her beauty at a party where he had seen her; and after a few meetings, made formal proposals to her father almost ere she was aware that he admired her. Much averse to form a new engagement, she would at once have declined receiving his addresses; had her parents not earnestly pressed the match as one in every respect highly eligible. Overcome at last by their importunities, and having, as she thought, no object in existence save to give pleasure to them, she yielded so far to their wishes as to consent to receive Mr Beauchamp as her future husband, on condition that he should be made acquainted with the history of her previous engagement, and the present state of her feelings. She secretly hoped that when he learned that she had no heart to give with her hand, he would withdraw his suit. But she was mistaken. Mr Beauchamp, it is true, knew that there was such a word as *heart*, had a notion that it was a term much in vogue with novel-writers, and was sometimes mentioned by parsons in their sermons; but that *the heart* could have anything to do with the serious affairs of life never once entered into his head to suppose. He therefore testified as much satisfaction at Emily's answer as if she had avowed for him the deepest affection. They were shortly afterwards married, and the pensive bride accompanied her husband to her new home—Woodthorpe Hall; an ancient, castellated edifice, situated in an extensive and finely-wooded park on an estate in the East Riding of Yorkshire.

But I have too long neglected Philip Hayforth—too long permitted a cloud to rest upon his honour and constancy. He was not, in truth, the heartless, light-minded wretch that I fear you may think him. Pride, and not falsehood or levity, was the blemish in his otherwise fine character; but it was a very plague-spot, tainting his whole moral nature, and frequently neutralising the effect of his best qualities. He had been quite as much charmed with Emily's present and Emily's letter as she had ever ventured to hope, and had lost not a moment in writing to her in return a long epistle full of the fervent love and gratitude with which his heart was overflowing. He had also mentioned several affairs of mutual interest and of a pressing nature, but about which he was unwilling to take any steps without the concurrence of his own dearest and kindest Emily.' He therefore intreated her to write immediately; 'to write by return of post, if she loved him.' But this letter never reached its destination: it was lost—a rare occurrence certainly, but, as most of us are aware from our own experience, not unknown. And now began with Philip Hayforth the same agony which Emily was enduring—nay, a greater agony; for there was not only the same disappointed affection, the same heart-sickness, the same weary expectation, but there was the stronger suffering of a more passionate and less disciplined temper; and, above all, there was the incessant struggle between pride and love—the same fearful strife which, we are told, once made war in Heaven.

Sometimes he thought that Emily might be ill; but then that did not seem likely, as her health was generally good, and she was, when she had last written, perfectly well, and apparently in excellent spirits. Should he write

to her again? No, she owed him a letter, and if she loved him, would doubtless answer it as soon as circumstances would permit; and he 'would let that haughty old aristocrat her father see that Philip Hayforth the merchant had more of the spirit of a man in him than to cringe to the proudest blood in England. And as for Emily, she was his betrothed bride—the same as his wife; and if he was not more to her than any father on earth, she was unworthy of the love he had given her. Let her only be true to him, and he was ready to devote his life to her—to die for her.' As the time wore slowly away, he became more and more exasperated, fevered, wretched. Sometimes it seemed to him that he could no longer endure such torment; that life itself was a burthen too intolerable to be borne. But here pride came to the aid of a better principle. His cheek tinged at the thought of being spoken of as the slighted lover, and his blood boiled at the bare idea of Colonel Sherwood's contemptuous pity for the vain plebeian who had dared to raise his thoughts to an alliance with his beautiful, high-born daughter. He 'would show the world that he was no love-sick, despairing swain; and Miss Sherwood's vanity should never be gratified by the display of the wounds her falsehood had inflicted. He would very soon, he knew, forget the fair coquette who had trampled thus upon his most sacred feelings.' So he tried to persuade himself, but his heart misgave him. No; he could not forget her—it was in vain to attempt it; but the more his feelings acknowledged her power, even the more the pride she had wounded in its tenderest point rose up in wrath against her; and he chafed at his own powerlessness to testify towards her his scorn and contempt. At such times as these he seemed even to himself on the verge of madness. But he had saner moments—moments when his better nature triumphed, and pride resigned for a brief space her stormy empire to the benigner sway of the contending passion.

In the midst of those terrific tornados, which in the West Indies and elsewhere carry in their path over immense districts ruin and desolation, there is a pause, often of considerable duration, caused, the scientific inform us, by the calm in the centre of the atmospheric vortex of which they are composed. Such a calm would occasionally rest upon the mind of Philip Hayforth, over the length and breadth of which the whirlwind of passion had lately been tearing. One night, after one of those hidden transports, which the proud man would have died rather than any mortal eye should have scanned, he threw himself upon his bed (for he rarely *went to bed now*, in the accepted sense of the phrase) in a state approaching exhaustion, mental and bodily. By degrees a sort of dream-like peace fell upon his spirit; the present vanished away, and the past became, as it were, once more a living reality. He thought of Emily Sherwood as he had first seen her—a vision of loveliness and grace. He thought of her as he had beheld her almost the last time on that clear summer morning, and like refreshing dew on his scorched and desolated heart fell the remembrance of her gentle words and loving looks. Could they have deceived? Ah no! and his whole nature seemed suddenly softened. He seemed to see her before him now, with her angel face and her floating white robes; he seemed even yet to be looking into those soft, bright eyes, and to read the same again, as he had read before, love unspeakable, truth unchangeable. His heart was filled with a yearning tenderness, an intense and longing

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fondness, and he extended his arms, as if to embrace that white-robed image of truth and gentleness: but she was not there; it was but her spirit which had come to still his angry passions with the calm of trust and love. And in the fond superstition that so it was, he sprang from his couch, seized a pen, and wrote to her a passionate, incoherent epistle, telling her that she had tried him almost beyond his strength, but that he loved and believed in her still, and if she answered immediately, that he was ready to forgive her for all the pain she had caused him. This letter finished, he threw himself upon his bed once again, and after a space, slept more soundly than he had done for many a long night before. When he rose in the morning he read over his letter, and felt, as he read, some faint misgivings; but these were put to flight by the recollection of Emily as she had appeared to him in the vision of the previous night. As the post, however, did not go out till the evening, he would keep the letter till then. Alas for the delay! It changed for ever his own fate and that of Emily Sherwood. It chanced that very afternoon that, taking up a provincial newspaper in a coffee-room into which he had strolled on his way to the post-office, the following paragraph met his eye:—‘We understand that there is a matrimonial alliance in contemplation between J—— R——, Esq., eldest son of Sir J—— R——, Bart., and the lovely and accomplished Miss Sherwood, daughter of Colonel Sherwood, late of the —th dragons, and granddaughter of the late R. Sherwood, Esq. of — Park.’ On reading this most unfounded rumour, Philip Hayforth waited not another moment, but rushed home as if driven by the furies; and tearing his letter in a thousand pieces, threw it and the purse, Emily’s gift, into the fire, and vowed to bestow not another thought on the heartless woman who had perjured her own faith and sold his true and fervent love for riches and title. Oh how he scorned her! how he felt in his own true heart that all the wealth and grandeur of the earth would have been powerless to tempt one thought of his from her!

To conceal all suspicion of his sufferings from the world, and if possible banish their remembrance from his own mind, he now went even more than formerly into society; and when there, simulated a gaiety of manner greater than had hitherto distinguished his most vivacious moments. He had always been a general favourite, and now his company was more sought after than ever. Among the young persons of the opposite sex with whom his engagements most frequently brought him in contact, was a young girl of the name of Fanny Hartley, pretty, gentle, excessively amiable, but without much mind, and with no literary taste whatever. She had nothing to say, but she listened to him, and he felt in her society a sort of repose, which was at present peculiarly grateful to his angry, troubled spirit. Her very silence soothed him, while the absorbing nature of his own feelings prevented him at first from thinking of hers. Philip Hayforth had certainly not more than an average share of human vanity, but he did at last suspect, partly from an accidental circumstance which had first drawn his attention to the subject, that he had created in the heart of the innocent Fanny a deeper interest than he had ever intended. He was touched, grateful, but at first grieved, for he ‘could never love again.’ But the charm of being loved soon began to work: his heart was less desolate, his feelings were less bitter, when he thought of Fanny

Hartley, and he began to ask himself if he were wise to reject the consolation which Providence seemed to offer him in the affection of this amiable and artless young creature. And when he thought of the pain she might perchance be suffering on his account, all hesitation upon the subject was removed at once. If she loved him, as he believed, his conduct, it seemed to his really kind heart, had already been barbarous. He ought not to delay another day. And accordingly that very evening he offered his hand to Fanny Hartley, and was accepted with trembling joy.

Their marriage proved a happy one. Fanny was as amiable as she had appeared, and in the conduct of the commoner affairs of life, good-feeling with her supplied in a great measure any deficiency of strong sense. Philip did perhaps occasionally heave a gentle sigh, and think for a moment of Emily Sherwood, when he found how incapable his wife was of responding to a lofty or poetic thought, or of appreciating the points of an argument, unless it were upon some such subject as the merits of a new dress or the seasoning of a pudding. But he quickly checked the rising discontent, for Fanny was so pure in heart, and so unselfish in disposition, that it was impossible not to respect as well as to love her. In short, Philip Hayforth was a fortunate man, and, what is more surprising, knew himself to be so. And when, after twenty years of married life, he saw his faithful, gentle Fanny laid in her grave, he felt bereaved indeed. It seemed to him then, as perhaps, at such a time, it always does to a tender heart, that he had never done her justice, never loved her as her surpassing goodness deserved. And yet a kinder husband never lived than he had been; and Fanny had died blessing him, and thanking him, as she said, 'for twenty years of happiness.' 'How infinitely superior,' he now daily and hourly thought, 'was her sweet temper and loving disposition to all the intellect and all the poetry that ever were enshrined in the most beautiful form!' And yet Philip Hayforth certainly was not sorry that his eldest daughter—his pretty, lively Fanny—should have turned out not only amiable and affectionate, but clever and witty. He was, in truth, very proud of Fanny. He loved all his children most dearly; but Fanny was the apple of his eye—the very delight of his existence. He had now almost forgotten Emily Sherwood; but when he did think of her, it was with indifference rather than forgiveness. He had not heard of her since his marriage, having, some time previous to that event, completely broken off the slight acquaintance he had formed with her relations; while a short absence abroad, at the time of her union with Mr Beauchamp, had prevented him from seeing its announcement in the papers.

Meanwhile poor Emily's married life had not been so happy as that of her former lover. Mr Beauchamp was of a pompous, tyrannical disposition, and had a small mean mind. He was constantly worrying about trifles, perpetually taking offence with nothing, and would spend whole days in discussing some trivial point of etiquette, in the breach of which he conceived himself aggrieved. A very miserable woman was his wife amid all the cold magnificence of her stately home. Often, very often in her hours of loneliness and depression, her thoughts would revert to the brief, bright days of her early love, and her spirit would be rapt away by the recollection of that scene on the balcony, when Philip Hayforth and she had stood with locked hands and full hearts gazing at the sinking star and the

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sweetly breaking day, and loving, feeling, thinking, as if they had but one mind between them, till the present seemed all a fevered dream, and the past alone reality. She could not have been deceived then : then, at least, he had loved her. Oh, had she not wronged him? had there not been a mistake—some incident unexplained? He had warned her that his temper was proud and jealous, and she felt now that she ought to have written and asked an explanation. She had thrown away her happiness, and deserved her fate. Then she recollected that such thoughts in her, the wife of Mr Beauchamp, were worse than foolish—they were sinful; and the upbraidings of her conscience added to her misery.

But Emily had a strong mind, and a lofty sense of right; and in those solitary struggles was first developed the depth and strength of her character. Partly to divert her thoughts from subjects dangerous to her peace, and partly from the natural bent of her inclinations, she sought assiduously to cultivate the powers of her mind, while her affections found ample scope for their exercise in the love of her infant son, and in considerate care for her many dependants, by all of whom she was loved and revered in no common degree. She learned thus the grand lessons—‘to suffer and be strong,’ and to make the best of destiny; and she felt that if she were a sadder woman, she was also a wiser one, and at any price wisdom, she knew, is a purchase not to be despised.

Mrs Beauchamp had been married little more than five years when her husband died. His will showed, that however unhappy he had made her during his life, he had not been insensible to her merit, for he left her the sole guardian of their only son, and, while she should remain unmarried, the mistress of Woodthorpe Hall. In the childish affection and opening mind of her little boy poor Emily at last found happiness—unspeakable happiness, although it was of course qualified by the anxiety inseparable from parental love. She doted upon him; but her love was of too wise and unselfish a nature to permit her to spoil him, while her maternal affection furnished her with another motive for the cultivation of her own mind and the improvement of her own character. She was fired with the noble ambition of being the mother of her child’s mind, as well as of that mind’s mere perishable shrine.

II.

Twenty-five years have passed away, with all their changes—their many changes; and now—

‘Gone are the heads of silvery hair,
And the young that were have a brow of care.’

And the babe of twenty-five years ago is now a man, ready to rush into the thickest and the hottest of the great battle of life.

It was Christmas time; the trees were bare on Woodthorpe Chase; the lawns were whitened by a recent shower of snow, and crisped by a sharp frost: the stars were coming out in the cold cloudless sky; and two enormous fires, high piled with Christmas logs, blazed, crackled, and roared in the huge oaken chimneys of the great oak hall. Mrs Beauchamp and her

son sat together in the drawing-room, in momentary expectation of the arrival of their Christmas guests—a party of cousins, who lived at about ten miles' distance from Woodthorpe Hall. Edmund Beauchamp was now a very promising young man, having hitherto fulfilled the hopes and answered the cares of his fond and anxious mother. He had already reaped laurels at school and college, and his enlightened and liberal views, and generous, enthusiastic mind, gave earnest of a career alike honourable and useful. In person and features, though both were agreeable, he did not much resemble his mother; but he had the same large, soft, thoughtful eyes, the same outward tranquillity of demeanour hiding the same earnest spirit. At present he was silent, and seemed meditative. Mrs Beauchamp gazed at him long and fondly, and as she gazed, her mother's heart swelled with love and pride, and her eyes glistened with heartfelt joy. At last she remarked, 'I hope the Sharpes's new governess is as nice a person as the old one.'

'Oh, much nicer!' cried Edmund suddenly, and as if awakening from a reverie.

'Indeed! I used to think Miss Smith a very nice person.'

'Oh, so she was—very good-natured and obliging; but Miss Dalton is altogether a different sort of person.'

'I wonder you never told me you found her so agreeable.'

'I—Oh, I did not—That is, you never asked me.'

'Is she young?'

'Yes—not much above twenty I should think.'

'Is she pretty?'

'I—I don't exactly know,' he said, hesitating and colouring; 'I suppose—most persons— I should think she is.' 'How foolish I am!' thought Edmund. 'What will my mother think of all this?' He then continued in a more composed manner—'She is a very excellent girl at least. She is the daughter of a London merchant—a remarkably honourable man—who has been ruined by these bad times; and though brought up in luxury, and with the expectation of large fortune, she has conformed to her circumstances in the most cheerful manner, and supports, it seems, with the fruits of her talents and industry two little sisters at school. The Sharpes are all so fond of her, and she is the greatest favourite imaginable with the children.' Edmund spoke with unwonted warmth. His mother looked at him half-sympathisingly, half-anxiously. She seemed about to speak, when the sound of carriage wheels, and the loud knock of a footman at the hall door, announced the arrival of the Sharpes, and Mrs Beauchamp and her son hastened into the hall to welcome their guests. Mrs Beauchamp's eye sought for the stranger, partly because she was a stranger, and partly from the interest in her son's conversation had created. But Miss Dalton was the last to enter.

Edmund had not erred in saying she was a pretty girl. Even beneath the cumbrous load of cloaks and furs in which she was now enveloped, you could detect the exquisite proportions of her *petite* figure, and the sprightly grace of her carriage; while a pretty winter bonnet set off to advantage a face remarkable for the intelligence and vivacity of its expression. Her features, though not regular, were small, while the brilliancy of her colour, though her complexion was that of a brunette, lent a yet brighter glow to her sparkling dark eyes, and contrasted well with the glossy black ringlets

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which shaded her animated countenance. At this moment, however, her little head was carried somewhat haughtily, and there was a sort of something not unlike bashfulness or awkwardness in her manner which seemed hardly natural to it. The truth was, Miss Dalton had come very unwillingly to share in the festivities of Woodthorpe Hall. She was not acquainted with Mrs Beauchamp, and report said she was a very dignified lady, which Fanny Dalton interpreted to mean a very proud one; and from her change of circumstances, rendered unduly sensitive, she dreaded in her hostess the haughty neglect or still haughtier condescension by which vulgar and shallow minds mark out their sense of another's social inferiority. And therefore it was that she held her head so high, and exhibited the constraint of manner to which I have alluded. But all her pride and shyness quickly melted before the benign presence and true heart-politeness of Mrs Beauchamp. Dignified the latter certainly was; but her dignity was tempered with the utmost benevolence of expression, and the most winning sweetness of manner; and when she took the hand of her little stranger guest between both of hers, and holding it kindly, said, 'You are the only stranger here, Miss Dalton; but for my sake you must try to feel at home,' an affection for Mrs Beauchamp entered into the heart of the young girl, which has continued ever since steadily to increase. That she should conceive such an affection was not unnatural, for there was something in the appearance and manners of Mrs Beauchamp, combined with her position in life, calculated to strike the imagination and touch the feelings of a warm-hearted and romantic girl such as Fanny Dalton, more especially one circumstanced as she was. Even her previous prejudice, with the reaction natural to a generous mind, was likely to heighten her subsequent admiration. But it is not so easy to account for the sudden interest the pretty governess created at first sight in the heart of her hostess. Many girls as pretty and as intelligent-looking as Miss Dalton she had seen before, without their having inspired a spark of the tenderness she felt towards this unknown stranger. She could not comprehend it herself. She was not prone 'to take fancies,' as the phrase is; and yet, whatever might be the case, certain it was that there was a nameless something about this girl which seemed to touch one of the deepest chords of her nature, and to cause her heart to yearn towards her with something like a mother's love. She felt that if Miss Dalton were all that she had heard, and that if she should really prove her son's choice, he should not be gainsaid by her.

The Christmas party at Woodthorpe Hall was generally a merry one; and this year it was even merrier than usual. Fanny Dalton was the life of the party; her disposition was naturally a lively one, and this hour of sunshine in her clouded day called forth all its vivacity. But Fanny was not only clever, lively, and amiable; her conduct and manners occasionally displayed traits of spirit—nay, of pride; the latter, however, of a generous rather than an egotistical description. Nothing was so certain to call it forth as any tale of meanness or oppression. One morning Miss Sharpe had been relating an anecdote of a gentleman in the neighbourhood who had jilted (odious word!) an amiable and highly estimable young lady, to whom he had long been engaged, in order to marry a wealthy and titled widow. There were many aggravating circumstances attending the whole

affair, which had contributed to excite still more against the offender the indignation of all right-thinking persons. The unfortunate young lady was reported to be dying of a broken heart.

Fanny, who had been all along listening to the narration with an eager and interested countenance, now exclaimed—'Dying of a broken heart! Poor thing! But if I were she, I would not break my heart—I would scorn him as something far beneath me, poor and unimportant as I am. No, I might break my heart for the loss of a true lover, but never for the loss of a false one!' As Fanny's eyes shone, and her lip curled with a lofty contempt, as her naturally clear, merry tones grew deeper and stronger with the indignation she expressed, a mist seemed suddenly to be cleared away from the eyes of Mrs Beauchamp, and in that slight young girl she beheld the breathing image of one whom she had once intimately known and dearly loved—in those indignant accents she seemed to recognise the tones of a voice long since heard, but the echoes of which yet lingered in her heart. Why she had so loved Fanny Dalton was no mystery now—she saw in her but the gentler type of him whom she had once believed the master of her destiny—even of Philip Hayforth, long unheard of, but never forgotten. But what connection could there be between Philip Hayforth and Fanny Dalton? and whence this strange resemblance, which lay not so much in form or in feature, as in that nameless, intangible similarity of expression, gesture, manner, and voice, so frequently exhibited by members of the same family.

As soon as Mrs Beauchamp could quit the table, she withdrew to her own room, where she remained for some time in deep meditation, the result of which was a determination to fathom the mystery, if mystery there was. It was just possible, too, that the attempt might assist her to find a key to the riddle of her own destiny. Accordingly, on the afternoon of the same day, she took an opportunity of being alone with Miss Dalton and her son, to say to the former—'I think you told me, my dear, that your father was alive?'

'Oh yes, thank God, *he* is alive! How I wish you knew him, Mrs Beauchamp! I think you would like him, and I am *sure* he would like and admire you.'

'Does your father at all resemble you in appearance?'

'I am not sure. I have been told that I was like him, and I always consider it a great compliment; for papa is still a very handsome man, and was of course even handsomer when he was young, and before his hair became gray. I have a miniature likeness of him, taken before his marriage, which I have with me, and will show you, if you will so far indulge my vanity.'

Mrs Beauchamp having replied that she should like exceedingly to see it, Fanny tripped away, and returned in a few minutes, carrying in her hand a handsome but old-fashioned morocco case. Mrs Beauchamp had never seen it before, but she well remembered having given directions for the making of a case of that very size, shape, and colour, for a miniature which was to have been painted for her. Her heart began to beat. She seemed upon the brink of a discovery. Fanny now opened the case, and placing it before Mrs Beauchamp, exclaimed, 'Now, isn't he a handsome man?' But Mrs Beauchamp could not answer. One glance had been

sufficient. A cold mist gathered before her eyes, and she was obliged to lean for support upon the back of a chair.

'Dear Mrs Beauchamp, are you ill?'

'My dear mother!' cried Edmund.

'It is nothing,' she answered, quickly recovering herself; 'only a little faintness.' And then with the self-command which long habit had made easy, she sat down and continued with her usual calm sweetness—'I could almost fancy I had seen your father; but I do not remember ever knowing any one of the name of Dalton but yourself.'

'Oh, but perhaps you might have seen him before he changed his name; and yet it seems hardly likely. His name used to be Hayforth; but by the will of his former partner, who, dying without near relations, left papa all his money, he took the name of Dalton. The money is all gone now, to be sure,' she continued with the faintest possible sigh; 'but we all loved the dear old man, and so we still keep his name.'

Fanny had seated herself beside Mrs Beauchamp, and as she finished speaking, the latter, obeying the impulse of her heart, drew her towards her and kissed her. Fanny, whose feelings were not only easily touched, and very strong, but even unusually demonstrative, threw her arms round Mrs Beauchamp, and cried, with tears in her eyes, 'How kind you are to me, Mrs Beauchamp! You could hardly be kinder, if you were my mother.'

'Dear Fanny,' she answered in a low and affectionate tone, 'I wish, indeed, I were your mother!'

As she spoke, Edmund, who had been standing in a window apart, made a sudden movement towards the two ladies, but as suddenly checked himself. At this moment his eyes encountered those of his mother, and colouring violently, he abruptly quitted the room. This little scene passed quite unnoticed by Fanny, who at the instant was thinking only of Mrs Beauchamp, and of her own gentle mother, now beneath the sod.

The daughter of Philip Hayforth became a frequent guest at Woodthorpe Hall, spending most of her Sundays with Mrs Beauchamp, who would frequently drive over to the Sharpes's for her of a Saturday afternoon, and send her back on the Monday morning. She was invited to spend the Easter holidays at the Hall—a most welcome invitation, as she was not to return home till the midsummer vacation. A most agreeable time were these Easter holidays! Never had Fanny seemed more bright and joyous. Her presence operated as perpetual sunshine on the more pensive natures of the mother and son. It was therefore a great surprise to Mrs Beauchamp when, one day at luncheon, about a week before the time fixed for the termination of her visit, Fanny announced her intention of leaving Woodthorpe that afternoon, if her friend could spare her the carriage.

'I can certainly spare it, Fanny; but I should like to know the reason of this sudden determination?'

'You must excuse my telling you, Mrs Beauchamp; but I hope you will believe me when I say that it is from a sense of duty.' As she spoke, she raised her head with a proud look, her eyes flashed, and she spoke in the haughty tone which always brought before Mrs Beauchamp the image of her early lover; for it was in her proud moments that Fanny most resembled her father.

'Far be it from me, Fanny,' she replied with her wonted sweetness and benignity, 'to ask any one to tamper with duty; but, my child, our faults, our *pride*, frequently mislead us. You shall go to-night, if you please; but I wish, for my sake, you could stay at least till to-morrow morning. I have not offended you, Fanny?'

'Oh, dearest Mrs Beauchamp!' and the poor girl burst into tears. 'I wish—I *wish* I could only show you how I love you—how grateful I am for all your goodness; but you will never, never know.'

Mrs Beauchamp looked anxiously at her, and began, 'Fanny'—— But suddenly stopped, as if she knew not how to proceed. Immediately afterwards the young girl left the room, silently and passionately kissing Mrs Beauchamp's hand as she passed her on her way to the door.

A few hours later in the day, as Mrs Beauchamp sat reading in her boudoir, according to her custom at that particular hour, Edmund abruptly entered the little room in a state of agitation quite foreign to his ordinary disposition and habits.

'Mother!' he cried.

'My love! what is the matter?'

'Mother! I love Fanny Dalton—I love her with all my soul. I think her not only the loveliest and most charming of women, but the best and truest! I feel that she might make my life not only happier, but better. Oh, mother! is not love as real a thing as either wealth or station? Is it not as sufficient for all noble works? Is it not in some shape the only motive for all real improvement? It seems to me that such is the lesson I have been learning from you all my life long.'

'And in that you have learned it I am deeply grateful, and far more than repaid for all my care and anxiety on your account; and now thank you for your confidence, my dear Edmund, though I think you might have bestowed it after a calmer fashion. It would have been better, I think, to have said all those violent things to Fanny than to me.'

'I *have* said more than all these to Fanny, and—she has rejected me!'

'Rejected you! my dearest Edmund! I am grieved indeed; but I do not see how I can help you.'

'And yet I should not be quite hopeless if you would plead my cause. Miss Dalton says that you have loaded her with kindness which she can never repay; that she values your affection beyond all expression; and that she is determined not to prove herself unworthy of it by being the means of disappointing the expectations you may have formed for your son, for whom, she says, she is no match either in wealth or station. She would not listen to me when I attempted to speak to her but this instant in the Laurel Walk, but actually *ran* away, positively commanding me not to follow; and yet, I do think, if she had decidedly disliked me, she would have given me to understand so at once, without mentioning you. Mother! what do *you*—what *do* you think?'

'You shall hear presently, Edmund; but in the first place let us find Miss Dalton.'

They went out together, and had not sought her long, when they discovered her pacing perturbedly up and down a broad walk of closely-shaven grass, enclosed on both sides by a tall impenetrable fence of evergreens. As soon as she saw them, she advanced quickly to meet them, her face

covered with blushes, but her bearing open and proud. Ere Mrs Beauchamp had time to speak, she exclaimed, 'Mrs Beauchamp, I do not deserve your reproaches. Never till this morning was I aware of Mr Beauchamp's sentiments towards me. Dear, kind friend, I would have suffered any tortures rather than that this should have happened.'

Fanny was violently agitated; while Mrs Beauchamp, on the contrary, preserved a calm exterior. She took one of the young girl's hands between both of hers, and answered soothingly, 'Compose yourself, my dear Fanny, I intreat you. Believe me I do not blame you for the affection my son has conceived for you.'

'Oh thank you! Indeed you only do me justice.'

'But, Fanny, I blame you very much for another reason.'

'For what reason, then, madam?'

'For the same reason which now causes your eye to flash, and makes you call your friend by a ceremonious title. I blame you for your *pride*, which has made you think of me harshly and unjustly. Unkind Fanny! What reason have I ever given you to think me heartless or worldly? Do you not know that those who love are equals? and that if it be a more blessed thing to give, yet to a generous heart, for that very reason, it ought to be a pleasure to receive? Are you too proud, Fanny, to take anything from us, or is it because my son's affection is displeasing to you that you have rejected him?'

Fanny was now in tears, and even sobbing aloud. 'Oh, forgive me,' she cried, 'forgive me! I acknowledge my fault. I see that what I believed to be a sense of duty was at least partly pride. Oh, Mrs Beauchamp, you would forgive me if you only knew how miserable I was making myself too!'

'Were you—were you indeed making *yourself* miserable?' cried Edmund. 'Oh say so again, dearest Fanny; and say you are happy now!'

Mrs Beauchamp smiled ~~kindly~~ as she answered, 'I will do more than forgive you, my poor Fanny, if you will only love my son. Will you make us both so happy?'

Fanny only replied by a rapid glance at Edmund, and by throwing herself into the arms of Mrs Beauchamp, which were extended to receive her. And as she was pressed to that fond, maternal heart, she whispered audibly, 'My mother!—our mother!'

Mrs Beauchamp then taking her hand, and placing it in that of her son, said with evident emotion, 'Only make Edmund happy, Fanny, and all the gratitude between us will be due on my side; and oh, my children, as you value your future peace, believe in each other through light and darkness. And may Heaven bless you both!' She had turned towards the house, when she looked back to ask, 'Shall I countermand the carriage, Fanny?' And Edmund added, half-tenderly, half-slyly, 'Shall you go to-morrow?'

Fanny's tears were scarcely dry, and her blushes were deeper than ever, but she answered immediately, with her usual lively promptitude, 'That depends upon the sort of entertainment you may provide as an inducement to prolong my visit.'

And Edmund, finding that he had no chance with Fanny where repartee

or badinage was in question, had recourse again to the serious vein, and rejoined, 'If my power to induce you to prolong your visit were at all equal to my will, you would remain for ever, my own dearest Fanny.'

We must now pass over a few months. The early freshness and verdure of spring had passed away, and the bloom and the glory of summer had departed. The apple-trees were now laden with their rosy treasures, the peach was ripe on the sunny wall, and the summer darkness of the woods had but just begun to be varied by the appearance of a few yellow leaves. It was on a September afternoon, when the soft light of the autumn sunset was bathing in its pale golden rays the gray turrets of Woodthorpe Hall, and resting like a parting smile on the summits of the ancestral oaks and elms, while it cast deep shadows, crossed with bright gleams, on the spreading lawns, or glanced back from the antlers of the deer as they ever and anon appeared in the hollows of the park or between the trees, that a travelling carriage passed under the old Gothic archway which formed the entrance to Woodthorpe Park, and drove rapidly towards the Hall. It contained Edmund and Fanny, the newly-married pair, who had just returned from a wedding trip to Paris. They were not, however, the only occupants of the carriage. With them was Mr Dalton, whom we knew in former days as Philip Hayforth, and who had been specially invited by Mrs Beauchamp to accompany the bride and bridegroom on their return to Woodthorpe Hall.

And now the carriage stops beneath the porch, and in the arched doorway stands a noble and graceful figure—the lady of the mansion. The slanting sunbeams, streaming through the stained windows at the upper end of the oak hall, played upon her dress of dark and shining silk, which was partly covered by a shawl or mantle of black lace, while her sweet pale face was lighted up with affection, and her eyes were full of a grave gladness. Her fair hair, just beginning to be streaked with silver, was parted over her serene forehead, and above it rested a simple matronly cap of the finest lace. Emily Beauchamp was still a beautiful woman—beautiful even as when in the early prime of youth and love she had stood in the light of the new-born day, clad in her robes of vestal whiteness. The change in her was but the change from morning to evening—from spring to autumn; and to some hearts the waning light and the fading leaves have a charm which sunshine and spring-time cannot boast. Having fondly but hastily embraced her son and daughter, she turned to Mr Dalton, and with cordial warmth bade him welcome to Woodthorpe Hall. He started at the sound of the gentle, earnest tones which, as if by magic, brought palpably before him scenes and images which lay far remote, down the dim vista of years, obscured, almost hidden, by later interest and more pressing cares. He looked in Mrs Beauchamp's face, and a new wonder met him in the glance of her large brown eyes, so full of seriousness and benignity, while the smooth white hand which yet held his in its calm friendly clasp seemed strangely like one he had often pressed, but which had always trembled as he held it. What could all this mean? Was he dreaming? He was aroused from the reverie into which he had fallen by the same voice which had at first arrested his attention.

'We must try to become acquainted as quickly as possible, Mr Dalton,' said Mrs Beauchamp, 'and learn to be friends for our children's sake.'

Bowing low, he replied, 'I have already learned from my daughter to know and to esteem Mrs Beauchamp.'

The more Mr Dalton saw of Mrs Beauchamp, the more bewildered he became. He fancied what appeared to him the strangest impossibilities, and yet he found it impossible to believe that there was no ground for his vague conjectures. His life had been one of incessant toil, lately one of heavy distress and anxious cares, which had frequently sent him to a sleepless pillow; but never had he spent a more wakeful night than this, his first under the stately roof which his daughter—his darling Fanny—called that of her home. He felt that he could not endure another day of this uncertainty. He must be satisfied at all hazards, and he resolved to make an opportunity, should such not spontaneously present itself. But he was spared the necessity; for after breakfast the following morning his hostess offered to show him the grounds—an offer which, with his desired end in view, he eagerly accepted. They commenced their walk in silence, and seemed as if both were suddenly under the influence of some secret spell. At last, in a hoarse voice and a constrained manner, Mr Dalton abruptly inquired, 'Pray, madam, may I ask—though I fear the question may seem an unceremonious, perhaps a strange one—if you have any relations of the name of Sherwood?'

He saw her start, as she answered with forced composure, 'Yes, Mr Dalton, I have. It was indeed my own name before I married.'

As she made this avowal, both stood still, it would seem by a sort of tacit, mutual consent, and earnestly looked at each other.

Philip Hayforth Dalton was now a man past the meridian of life; his once handsome and still striking countenance was deeply marked with lines of sorrow and care, and his dark luxuriant locks were thinned and grizzled, while his features, which had long been schooled to betray no sign of emotion of a transient or superficial nature, were now, as his eyes met those of Mrs Beauchamp's, convulsed as by the working of a strong passion. A slight blush tinged Emily's usually pale cheek; she drew a rapid breath, and her voice faltered perceptibly as she said at last, 'Yes, Philip Hayforth, I am Emily Sherwood!'

Not immediately did he reply either by word or look—not till she had asked somewhat eagerly, 'We are friends, Mr Dalton—are we not?'

Pride wrestled for a minute with the better nature of Philip Hayforth; but whether it were that his self-command was now greater than in the fiery and impassioned season of youth, or that it was difficult to maintain anger and resentment in the gentle, soothing, and dignified presence in which he now found himself, I undertake not to tell; but certain it is that this time at least he crushed the old demon down, and forced himself to answer, though with a formal manner and somewhat harsh tone, 'Friends, Mrs Beauchamp! Certainly we are friends, if *you* wish it. Your goodness to my poor motherless Fanny has completely cancelled all wrongs ever done to Fanny's father. Let the past be forgotten!'

'Not so, if you please,' she answered gently, 'rather let it be explained. Mr Dalton, we are neither of us young now, and have both, I trust, outlived the rashness of youth. Never till our mutual truth is made mutually clear can we be the friends we ought to be—the friends I wish we were for Edmund's and Fanny's sake. Let us both speak plainly and boldly, and

without fear of offence on either side. I promise, on mine, to take none at the truth, whatever it may be.'

Mr Dalton, as she spoke, regarded her earnestly and wonderingly, saying, as she finished, half in reverie, half addressing her, it would seem, 'The same clear good sense, the same sweet good temper, which I had persuaded myself was but the effect of a delusive imagination! But I intreat your pardon, madam, and I promise as you have done.'

'Tell me then, truly, Mr Dalton, why you never answered the last letter I wrote to you, or acknowledged the receipt of the purse I sent?'

He started, as if he had received a pistol-shot: the formal, distant Mr Dalton had disappeared, and the eager, vehement Philip Hayforth stood before her once more. 'I did answer it, Emily. Out of the fulness of my heart—and how full it was I cannot tell you now—I answered your letter; but you, Emily, you never answered mine.'

'Indeed I never received it.'

It was some minutes after this announcement ere either was able to speak, but at last Mr Dalton exclaimed, 'Oh how I have wronged you! Emily, at this instant I catch, as it were, at the bottom of a dark gulf a glimpse of the evil of my nature. I begin to believe that I have cherished a devil in my bosom, and called it by the name of a good angel. Emily, if I am not too old to improve, you will have been the instrument of my improvement. I do not ask you to forgive me, generous woman, because I feel that you have already done so.'

Mrs Beauchamp felt what it must have cost the proud man to make this acknowledgment, and she honoured him for the effort. 'We have both been to blame,' she said, 'and therefore stand in need of mutual forgiveness. But it would be idle now to lament the past—rather let us rejoice that our friendship, re-established on the firm basis of perfect confidence, is cemented by the union of our dear children.'

Mr Dalton only answered by offering her his arm, with the kind and familiar politeness of an old friend, as she looked a little fatigued, and they walked together some distance in silence. At last Mrs Beauchamp inquired, 'Was Fanny's mother like herself?'

'No, Emily. My poor dead Fanny,' and his voice trembled slightly, 'was very sweet and amiable, but not at all like my living one.'

'Your marriage was happy then? I am glad of that.'

'I should have been the most ungrateful of men had it not been so; and yours too, Emily, I hope'—

He stopped, he hardly knew why, while, with her eyes fixed on the ground, she answered slowly, 'I am happy, very happy now!'

A feeling of profound respect and admiration held Mr Dalton silent for a few seconds, and then he said, in the tone of one who expresses an earnest conviction, 'You are the most noble-minded woman I ever knew.'

Mrs Beauchamp made no answer, and it was not till they stood together in the Hall that she said in her natural tone of kind and calm cheerfulness, 'And now, Mr Dalton, let us look for Edmund and Fanny; and if you please, in order that they may learn of our mistakes that trust is the nobler part of love, we shall tell them this story of THE LOST LETTER.'

THE SOMNAMBULE.

ABOUT twelve months ago André Folitton, horticulturist and herbalist of St Cloud, a young man of worth and respectability, was united in marriage to Julianne, daughter of an apothecary of the same place. André and Julianne had long loved each other, and congeniality of disposition, parity of years, and health and strength, as well as a tolerably comfortable set-out in the world, seemed to promise for them many years of happiness. Supremely contented, and equally disposed to render life as pleasant and blithe as possible, the future seemed spread before them, a long vista of peace and pleasantness, and bright were the auguries which rose around them during the early days of their espousal.

Though he loved mirth and fun as much as any one, André was extremely regular in his habits, and every engagement he made was pretty sure of being punctually attended to. Julianne quickly discovered that thrice every week, precisely at seven o'clock in the evening, her husband left his home, to which he returned generally after the lapse of two hours. Whither he went she did not know, nor could she find out. André always parried her little inquiries with jokes and laughter. She perceived, however, that his excursions might be connected with business in some way or other, for he never expended money, as he would had he gone to a *café* or *estaminet*. Julianne's speculations went no further than this. As to the husband and wife, had they been left to themselves, not the slightest interruption of mutual good-feeling would ever have arisen out of this matter.

But it is a long lane which has no turning, and a very slight circumstance gave an unhappy twist to the path which had promised such a direct and pleasant voyage through life. Julianne had almost ceased to puzzle herself about her husband's periodical absences, indeed had ceased to joke when he returned from them, having easily learned—the good-tempered little woman—to consider them as nothing more than some engagement connected with the ordinary course of business. One night, however, a neighbour, M^{me} Margot, stepped into the bowery cottage of the young pair to have a chat and a cup of coffee with M^{me} Folitton. M^{me} Margot, though she had more words than Julianne, and could keep the conversation going at a more rattling pace, had by no means so sweet and gracious a presence. Her sharp eye and thin lips were true indices to a prying and somewhat ill-natured disposition; and the fact is, that M^{me} Margot, having

several times seen André pass her house alone in the evening, as if taking a walk by himself, had been seized with a strong desire to know 'how things were going on' between him and his wife. M^{me} Margot had never joined other folks in their profuse prophecies of future happiness when André and Julianne were wedded. She was not the woman to do it; her temper had spread her own bed, and her husband's too, with thorns and briars, and so she declared that the happiness of wedded life was something worse than a *mauvaise plaisanterie*. 'Eh bien!' she exclaimed, when folks spoke of André and his wife. 'I wish them well, but I have lived too long to suppose that such a beginning as theirs can hold on long! We shall hear different tales by and by!' So M^{me} Margot, with her sharp eye and thin lips, eager to verify her prognostications, had visited André's house to reconnoitre.

'M. Folitton? he is not here?' said she in the course of conversation.

'He is from home,' answered Julianne; and as she saw the peering expression of M^{me} Margot's face, she answered in such a manner as to check further inquiry.

'I knew it!' thought M^{me} Margot. 'I was sure there was something wrong!'

'André will be in presently,' added Julianne.

'Ah, well,' exclaimed her companion with the look of one resigned to the inconveniences of life. 'It is well that he is so attentive to business; and very glad I am to see how much he has upon his hands: early in the morning till late at night. Fortune and leisure await those who work like him.'

'You are kind,' said Julianne. 'It is true that André works very hard. Let me fill your cup.'

'Ah, Julianne! On your wedding-day, my dear, all the songs were hosannas and jubilation, and it really does seem that you are very happy and comfortable. Is it not so?'

'You are right, M^{me} Margot. André and I are very happy, and we have many blessings to be thankful for.'

'There is one thing,' rejoined the wily lady, 'which, allow me to say, people who have businesses to look after feel rather strongly. Ay, well do I and Margot know that business interferes terribly with domestic happiness.'

'In what manner?'

asked Julianne in some surprise, for M^{me} Margot's experience did not 'come home' to her. 'I have never thought so, nor André either, I believe.'

'Why, my dear, when people are abroad they can't be at home,' continued the inquisitress. 'And as I and Margot feel that it is hard we can be so very little together, I naturally think that other people must feel the same. But, however, we can enjoy our little walk in the evening. I am sure, my dear, you would like it all the better if you could do the same.'

'I should,' said Julianne; 'but as André's time is occupied, there is no use thinking about it. I can't think where he goes,' added she unguardedly and pensively.

M^{me} Margot pricked up her ears.

'Why, my dear!' exclaimed she, lowering her voice, as if about to say

something of momentous importance, 'do you mean to say that you don't know where he goes so many evenings in the week?' The good lady had always exercised a sharp scrutiny over the movements of her lord, and the bare idea of Julienne being ignorant of André's proceedings excited her indignation and pity.

'I don't know, nor have I ever taken any trouble to know,' answered Julienne frankly and carelessly.

'Well, it's very good of you I daresay,' returned her visitor with something like contemptuous commiseration in her tone. 'But, my friend, you should think how necessary it is that husband and wife should be as one person. It vexes me to find that André does not acquaint you with all his doings—especially with that to which he seems to pay such unflinching attention. You shouldn't let it go on any longer, my dear, for you don't know what may happen. It never smokes but there is fire. No one can tell what might have happened between me and Margot had I not always kept my eyes open: a little watchfulness has saved us worlds of annoyance and trouble.' Observing that Julienne looked offended, and was about to say something, M^{me} Margot dexterously handed her cup with a most gracious and winning bow, and launched into another topic, resolving by all means not to spoil the effect of the stimulants and hints she had let fall.

When André returned this night, Julienne, to his surprise, asked him where he had been, and implored him to tell her. With a serious look he answered that it was impossible, and begged her not to inquire into a matter which in nowise concerned her, and which would cause her no sort of surprise if she knew all. As usual, the two bantered each other over the mystery, and the subject was dropped. But M^{me} Margot, though she had not succeeded in setting the young folks by the ears, had nevertheless implanted in a woman's breast an ardent desire to probe a secret. Julienne, good as she was, could not vanquish nature, and a curiosity possessed her as strong as Fatima's.

One day as she was glancing over the columns of a newspaper of which André was a constant reader, an advertisement of a peculiar description met her eye. It was headed *La Somnambule*, and announced that M^{lle} Trompere, whose *prodigieuses facultés* and *lucidité extrême* had caused the greatest astonishment and excitement, continued to give mesmeric *séances* on such and such days. Julienne then turned the paper and read other matters, but now and then she looked back at this advertisement, read it again and again, and presently laid it down with a merry little laugh. There was a promise of inviolable secrecy at the end of the announcement: that she regarded particularly. She had heard stories of the wonders of clairvoyance, she was artless, and knew little or nothing of the world, and thought it would be a capital joke to try the power of M^{lle} Trompere's *lucidité*. She was going into Paris on business the very next day, and she resolved to put her project into execution. She laughed gaily as she anticipated the astonishment her husband would evince while she might let fall, some of these days when they were alone, that she knew his secret.

Behold the young wife, with sparkling eyes, and a smile upon her fresh lips, wending her way up the long and narrow Rue St Nicholas in Paris!

Arrived at the house of the clairvoyante, she asked at the concierge for M^{lle} Trompere.

'*Quatrième, à gauche!*' cried the porter, and Julianne hurried up the narrow staircase. Arrived at the fourth storey, she rang the bell at the door on the left, and awaited the issue of the summons in something like trepidation. The door was opened, and there came forth an old man of really venerable and imposing appearance. Thick locks of curling silver hair were combed back off a high and well-formed forehead; and beneath this appeared a countenance pale, but clear, and of serious and benign expression. Thin, and of middle height, a long dark-green robe-de-chambre made him appear tall, and the little Julianne thought she had never seen so grand an old man before. From his slightly-abstracted air, and a pair of silver-rimmed spectacles still resting on his visage, one would have fancied that he had just risen from profound study. Julianne felt quite abashed that she should have interrupted the labours of one who looked so much like a good seer, especially as she thought what a trumpery and childish errand she had come upon. It was with a faltering voice and a deprecating smile that she asked for M^{lle} Trompere.

'Ah!' exclaimed the old man, as if just awakened to full presence of mind; 'you wish to see her? Wait one moment, my child.'

He spoke softly and tenderly, conveying the idea that he was good and wise as well as aged. Julianne waited in the lobby of the suite of apartments whilst he entered the salon. He returned after the lapse of a few minutes, which seemed hours to the visitor, who began to grow nervous, and to feel, to use a common phrase, 'ashamed of herself.'

'I am sorry,' said the old man as he returned, 'Mademoiselle is fully engaged to-day. I might have told you so before, but I am forgetful. Can your business be postponed, my child?'

'Oh, indeed, yes!' answered Julianne readily.

'It is well,' continued he. 'To-day is Friday: can you return on Monday? Mademoiselle will be most happy to assist in any investigation you may wish to make.'

'Really'—commenced Julianne, intending, as haply M^{lle} Trompere was engaged at present, to have postponed her contemplated interview *sine die*.

'I will tell her to expect you on Monday,' said the old man, gently shaking Julianne's unresisting hand. 'Pray what may be your name?'

'Foliton.'

'Married, I see,' added he, looking at the ring upon her finger. 'It is well! Of the Folitons of the Rue St Lazare?'

'No,' said Julianne; 'I live at St Cloud, where M. Foliton is a florist and botanist.'

'Ah, I know him: a worthy and clever young man!' answered the seer. And thus, holding her hand, they enjoyed a pleasing and confidential chat.

Julianne, wishing she had never undertaken her adventure, or that, being commenced, it were well over, kept her appointment on the Monday—it being a very common thing for her in the summer-time to start off to Paris. Something was continually being wanted from the vast storehouses of the metropolis. Thus her journey attracted no attention.

When she rang M^{lle} Trompere's bell this second time, the summons

was answered by a little girl, who conducted her into the salon. On entering, she perceived the old man whom she had before seen writing at a table covered with papers and large books, many of the latter being open. A young woman, dressed in black, and of genteel appearance, but the expression of whose features Julianne did not altogether like, was sitting by the window busied with her crochet-needles. The latter personage rose from her seat, and inclined her head to Julianne.

‘M^{me} Folitton?’

‘Yes.’

‘My father has prepared me to expect you. I was much engaged when you came the other day, but now I am at your service.’ She touched the old man whom she called father upon the shoulder, but she had to repeat the operation twice or thrice ere he turned his eyes from his manuscript, so profoundly was his attention engaged thereon. He shifted his position slowly, raised his spectacles, and rubbed his eyes like one awakened from a dream.

‘He studies much,’ said M^{lle} Trompere to Julianne, as if by way of apology for the old man’s abstraction. ‘Do you see! — here is M^{me} Folitton.’

‘Ah, it is well!’ exclaimed he, as, with half sigh half smile, he advanced to the young visitor and shook her hand. ‘She comes to consult you, my child, as I have told you; and I half suspect the little lady is not so anxious for the mere solving of what seems a riddle to her, as she is to test the truth of clairvoyance; so we must be upon our metal. Saucy little bird! She is not the only one who doubts the wondrous insight into the mysteries of nature which science has in our day obtained.’

M^{lle} Trompere, the somnambule, then deposited herself in a large and handsome arm-chair, softly cushioned in crimson velvet. She sat upright for a while, and the old man and his daughter looked fixedly at each other, while the former passed his right hand slowly up and down before her face. After eight or ten ‘passes,’ her eyes suddenly closed, her face grew white as death, and she sank back in an attitude of complete repose. The old man continued making the ‘passes’ for a minute or two longer, and then going softly round to the back of the somnambule, laid his hand lightly upon her head.

‘Mademoiselle is now ready for your interrogations,’ said he to Julianne.

Poor Julianne was frightened, and had she known beforehand that such a mysterious operation as she had just witnessed would have been necessary to the gratification of her whim, she would rather a thousand times have let it remain unsatisfied. So flurried was she, that she knew not what to ask, and would have been very glad to have paid her fee at once and gone home again without testing the *lucidité extrême*. As if divining her thoughts, the old man turned them into a different channel by himself asking the question which Julianne had intended.

‘Can you give your visitor any information respecting M. Folitton at St Cloud?’

‘At St Cloud say you?’ said the somnambule in a low, dreamy voice. ‘Wait one moment. Ah! now I see him. He is in a large garden. There are workmen round him who ask him questions respecting the labour next to be taken in hand. Now they leave him, each proceeding

to his appointed task. M. Folitton goes into his house. He takes a billet from his breast and reads it. I can see the signature: it is *Marie Colonne*.'

Julienne started. The old man looked towards her wistfully, and then, as if interpreting her thoughts, asked the somnambule, 'Can you read the contents of the billet?'

'It is not very distinct,' was the reply; 'apparently written in haste. The words are—"Your fears, *Andrè*, are needless. What matters it that Fate would seem to demand our eternal separation? Can we not be superior to Fate? Have we not proved it? Do not fast to-night: but this I need not tell you, for since you first discovered the grand mistake of your life, you have not wavered." Monsieur Folitton reads it again and again, and replaces it in his breast. He opens his desk and examines something. I see it now: it is the miniature of a lady. She is young: her hair is very long, her eyes dark and bright.'

'It is enough,' said Julienne, rising quickly. 'Be it true or false, I will hear no more.' She moved hurriedly towards the door, as if to escape as quickly as possible from a cruel torment. The old man followed her.

'I forgot,' exclaimed the agitated girl, as she paused and drew from her little glove the stipulated fee.

That very evening M^{me} Margot repeated her visit, and requested to see Julienne alone. She found her alone, but, as if she had something too weighty to be said in the *salle-à-manger*, she insisted that they should shut themselves up in Julienne's bedroom, while she relieved her loaded mind.

'Ah, poor Julienne!' said she, 'I never come to see her of an evening but I find her alone! Poor child! so innocent and unsuspecting too! Well, we all have our trials; but to see one whom I love as if she were my own child so treated, is enough to drive me mad!'

'What do you mean?' asked Julienne nervously, for her adventure with the *clairvoyante* had given her a shock.

'My dear, do you mean still to say that you don't know where your husband spends his evenings?'

'It is true; I do not know,' said Julienne, blushing deeply; then adding in a tone which, though meant to be firm and resolute, was painfully faint and timid—'nor do I wish to'—

'Well, my child, I happen to know!' exclaimed M^{me} Margot, her sharp eyes flashing with eager excitement. 'By the merest chance in the world I have made the discovery, and I considered it my duty to speak to you directly, in the hope of saving you and your husband, if possible, from much future misery. My love, prepare yourself for what I have to tell:—Your husband repairs to M. Colonne's nearly every evening, and is always admitted and let out by M^{lle} Marie! She is the one who gives him welcome and bids him *adieu*! Oh, it is enough to drive one crazy! My tears flowed for you last night, poor Julienne!'

'Oh, restez tranquille!' said Julienne coldly. She had started and trembled upon hearing a tale which coincided so completely with the revelations of the somnambule, but M^{me} Margot's acrid and triumphant manner roused her indignation, and whether the story she told and the reference she so readily founded upon it were true or false, Julienne heartily wished her away—never to see her malignant eyes or hear her bitter voice again. She was too proud to ask any questions for the sake of

proving what foundation her sympathising companion had for her suspicions. She loved Andrè warmly, and sincerely believed him to be worthy of her love; but there was something in his own secrecy and in the similarity of the different reports which had reached her ears this day which staggered her earnest faith. A dreary feeling overcame her: the radiance of her life was clouded over. The anchor which had held her safely in a tranquil and beautiful bay seemed to have lost its hold suddenly, and now she was tossing upon a strange and restless sea. And M^{me} Margot watched the quivering of her lip and the fevered flushing of her face, and gloated upon the agony she had caused.

'I have done my errand,' said she, 'and now my mind is a little more at ease. Take what steps you think proper, my poor child; the sooner the matter is settled the better for all parties; and if you should have any difficulty, pray do not hesitate to apply to me. It might not yet be too late to prevent mischief.'

Andrè came home that night as hearty and good-tempered as ever. He saw that his little wife looked but poorly, and he affectionately inquired what ailed her; caressed her, and tried to comfort and revive her. Indescribably oppressed, she burst into tears. This relieved her, but she was silent and triste the rest of the evening. She could not bear to think of telling him what she had heard, and what she felt. Indeed a deep feeling of reproach rose up in her heart as she looked in his frank and sympathetic face; but she could not comprehend the mystery, and felt miserable and crushed.

The days passed on, and Andrè grieved to find his young wife grew no better. At length, satisfied, from the peculiarity of her malady, from her silent behaviour, and the strange brooding manner in which he sometimes found her regarding him—feeling assured that the change owed its existence to something relating to himself—he gravely asked her what had brought it about, and solemnly conjured her to conceal nothing from him. So repugnant to her, however, was the idea of exhibiting a feeling so gross, and so unjust to her husband, as she determined to think, was her jealousy, that she still withheld the secret.

She seemed to be pining day by day. Andrè's pain and vexation were as deep as her own sadness. A mutual dissatisfaction was fast springing up between them. While matters were at this pass, M^{me} Margot, who, like the bats, rarely moved out before the evening, paid her third visit to the house of the botanist. Andrè coming home earlier than usual this night, she spent some time with the husband as well as the wife. Eagerly she watched the behaviour of the two, and acutely she judged how things stood. Supper passed, however, without any allusion thereto, and Andrè led madame to the door.

'Poor Julianne!' said she when they were alone. 'You do not take care of her; she is looking very so-so.'

'It is true,' said Andrè sadly; 'I cannot understand it. She says she is well, but there is something the matter I am sure.'

'Ah! don't tell me!' exclaimed M^{me} Margot, lifting her right arm, protruding her head, and shaking her forefinger at him. 'You cannot understand, eh? Ah, I'm too old a bird for that, and I haven't forgotten how *I* was treated once by Margot!'

'What do you mean?' inquired André seriously.

'Mean! Ah, ah! it is very good, M. Folitton! You should have been made an actor!'

'M^{me} Margot, I cannot joke with you, nor read your riddles. Julianne's ailment is a serious matter to me.'

'Well, well! It is amusing to hear him! But one word in your ear, my good André. How can you expect your poor wife to look happy and pleased when it is known all over St Cloud that you are for ever with Marie Colonne? There!'

'What—what!' cried André; but M^{me} Margot was off, muttering and tittering as she walked rapidly home. André was thunderstruck. The conversation between him and his young wife when he returned to the room was anything but satisfactory. He wished to draw from her all she knew; but Julianne was cold and mysterious; and at length the husband became angry, or else feigned to do so, as he half-suspected, by way of a cloak for his misdeeds.

'It seems we did not know much of each other after all,' said André ruefully one day. 'After being together so many years too! Had any one told me that so shortly after our marriage my house would be filled with gloom and grief, I should have laughed finely, or taken offence.'

'Oh, André, André, André!' cried poor Julianne, laying her face upon his breast, while her tears flowed fast and thick—all the inward pride, which, though creditable to her heart, was capable of effecting so much misunderstanding, completely vanquished. 'Why have there been secrets between us? Why have we sought to conceal anything from each other? I am sure that our love is not dried up, and that there is something mysterious to each of us in the bitterness of these days! We have both had secrets: let me have what blame I may for mine—I can keep it no longer.' And then, with some shame and humiliation, she recounted to André the little history of her own feelings and doings—how at first she cared nothing whither he went, or what he did, satisfied that he was good, and that he loved her truly; how M^{me} Margot had paid her a visit, and had stimulated her curiosity by sarcasm and pity; how she came, after seeing an advertisement in the newspaper, to think of visiting the somnambule, more by way of a joke than anything else; the revelations that were made to her, and the apparent confirmation they received from what M^{me} Margot afterwards told her. She was in too much fear of making him angry to tell him before; but how could her little head be expected to see through all this, and how withstand the inevitable influences of such a trial?

André was aghast. Trembling with excitement, and muttering imprecations against the clairvoyante and M^{me} Margot, he bade Julianne quickly prepare to accompany him to Paris. He got his horse and gig ready; and in a few minutes himself and his wife, the latter greatly agitated and alarmed, were proceeding at a rapid pace along the road to Paris. André drove his good horse as he had never been driven before, and the five miles betwixt St Cloud and the capital were quickly passed. The Rue St Nicholas was presently gained, and the bell of the somnambule's apartment sharply rung. The old man appeared, looking sage and benevolent as ever. His attitude and aspect, imposing and tranquil, somewhat checked

the impetuousness of the angry husband. The latter even bowed, and took off his hat as he asked to see M^{lle} Trompere, but his voice and quick breathing still betrayed his excitement. His eagerness appeared to take the old man by surprise; he looked at Julianne; but her head being turned away, he did not recognise her; and after an instant of consideration, bade them enter. Mademoiselle the clairvoyante was discovered sitting in the same place, and occupied in the same manner, as she had before been found by Julianne. She looked up from her employment; and scanned both husband and wife with a quick penetrating glance as they advanced towards her. Her features for an instant betrayed some excitement as she noted the flushed cheek and wrathful eye of the former. It was but for an instant, however: almost immediately they were resolved into an expression of perfect nonchalance.

'Woman, your second-sight has cost us dear!' cried Andrè.

'Monsieur!' interrupted M^{lle} Trompere sternly.

'Your impositions will bring you into trouble, as they do other people,' continued Andrè. 'Your lies bear seed—do you know it?—and grow into poison, blighting and working mischief wherever you spread them. If you do not fully contradict the tale you told my silly wife the other day, I will let you know that you carry on a dangerous trade.'

'Your wife! My good man you are mad!' returned the somnambule.

'I am nearly so,' said Andrè; 'so take care what you say. My wife—look at her—you have seen her before; you need not attempt to deny *that*. She, in a foolish whim, came to you the other day, and you told her certain falsehoods respecting me, which I now demand that you own to be such. Acknowledge your trick, and I will have no more to say; but refuse, and I go instantly to the préfet of police.' The old man stood by with a wandering look, as if stricken with sudden imbecility; but his bolder companion regarded the furious visitor with absolute *sang-froid*, fixing upon him a glance that never wavered.

'My profession, my good man,' said she coldly, leaning back in her cushioned chair, 'is to discover truth, not to deny it. People consult me when they find the course of their lives disturbed by secret causes, and when the clearing up of such little mysteries is desirable. Your wife, prompted by a very justifiable and proper curiosity, has availed herself of the grand discovery of which I am an exponent. M. Folitton, you accuse me of falsehood, and ask me to deny what I know to be true. Of course I refuse to do anything of the sort. Doubtless you think to make yourself appear guiltless in the eyes of the wife whom you have wronged, by frightening a woman, and forcing her to declare that you are perfectly faithful and true. Impostor as you style me, I am neither weak nor wicked enough for that!'

'Then I must consult the préfet,' said Andrè.

'And I also,' said the clairvoyante. 'If necessary, I will not scruple to make manifest to the whole world the truth of the revelations your wife heard from me.'

'You are bold, woman!'

'Yes, in common with the meanest living thing, I am bold when attacked. You will not find it easy to turn me to your own account. Try, if you are so disposed, by all means; but as surely as I know the truth,

you had better not!' This was uttered with such complete assurance, so firmly and hardily, and her whole demeanour exhibited such supreme defiance of him and reliance upon herself, that André's indignation was turned into bewilderment and perplexity. He abruptly seized the arm of his agitated wife, and drawing it within his own, strode out of the room, telling his contemptuous opponent that she should soon hear what step he would take next. As yet, not a word of reconciliation or explanation had passed betwixt himself and Juliennette. He was too proud to make his peace with her before he had fully justified himself; do it how he could.

But the same evening he brought M^{lle} Marie Colonne and her father and mother to his house, and to them, in the presence of his wife, related the story of his troubles, up to the passage betwixt himself and the lady of vaunted *lucidité* that morning. The worthy family were highly indignant, but displayed much good-feeling towards Juliennette, who, sick at heart, was really deserving of commiseration. She in her turn warmly denied that she had been actuated by any feeling of suspicion or jealousy in consulting M^{lle} Trompère: she had done a very silly thing, and should repent it as long as she lived; but it was merely a careless whim, and indeed was contemplated more as a joke than anything else, for being sure that André was faithful to her, she never had an idea that misunderstanding and misery to herself, induced by remarkable coincidences, would result from what she did. She was now perfectly satisfied, and trusted that Marie and her husband would forgive her.

'That all may be made perfectly clear,' said André, 'let me now say that, in thinking over it, as I never happened to do before, I can hardly wonder Juliennette took my frequent absences and my secrecy concerning them amiss. I never dreamed that misery would happen from a husband concealing so small a matter from his wife; but I now see how very possible it is, and in future am resolved never to refuse to answer when she inquires where I have been.'

He then explained to his wife that he had been a member of one of those secret clubs which sprang up in such numbers all over France, but especially in the neighbourhood of Paris, immediately after the revolution of 1848. M. Colonne was the president of that club, and at his house its meetings were held. All society was one great vortex of antagonistic parties; and this club, consisting of several of the substantial inhabitants of St Cloud, owed its birth to the anxiety so very commonly felt by the lovers of order and quiet to lay down for themselves some unanimous and practical course of conduct in the event of another outbreak. The continuance of tranquillity had for the present, however, caused its dissolution, until, mayhap, another season of disorder and violence should occur; 'so in future,' said André, 'I shall spend my evenings at home!'

Juliennette heard this explanation with mingled feelings of pleasure and regret. She humbly asked Marie to forgive her, and was quickly in the embrace of the sympathising young girl.

M. Colonne, exceedingly wounded by the imputations which had been cast upon the character of his daughter, of whom he was at once fond and proud, paid M^{me} Margot a visit on his way home, and talked to the old lady in a manner which caused her considerable trepidation, and no doubt went far to check the propensity so strongly developed in the com-

position of her character for picking holes in her neighbours' jackets. He also resolved to prosecute M^{lle} Trompere and her confederate. This Andrè was hardly ready to do, being perfectly satisfied, now the misunderstanding was cleared up; but M. Colonne declared that no member of his family should be aspersed with impunity, and even if it were solely on public grounds, to protect the unguarded and the credulous from imposition and misery, he would spend a thousand francs to make an example of the pair. Andrè was very reluctant, however, to carry the affair before the public, and persuaded M. Colonne, in the first place, to visit M^{lle} Trompere with Marie, and force her to contradict her tale; 'indeed,' said he, 'they had better all go together, and then the woman would have no possible room for subterfuge or persistence in her calumnies.'

They were off to Paris the next day. As it happened, M. Colonne and his daughter preceded Andrè and Julienne at the house of the somnambule. M. Colonne was a man of warm and quick temperament.

'My name is Colonne,' said he abruptly, the moment he stood before the somnambule and her father; 'this is my daughter Marie. We have made a journey from St Cloud purposely to inform you that your clairvoyance is defective, and to warn you that, not being overskilled in the profession you now follow, you had better choose another—a more honest and safe one; for when people deal in slanders and lies, they risk intimate acquaintance with police-officers and jails!'

'Ah, my father, did I not say so?' exclaimed M^{lle} Trompere, turning tranquilly to the old man. 'I told you we should shortly have a little sequel to the romance of the poor Folittons.'

'There will be another little sequel, mademoiselle, unless you quickly apologise to my daughter!' said M. Colonne warmly.

'M. Colonne,' returned the somnambule coolly, and even dictatorially, 'you have no doubt been induced to come here by a parental and honourable feeling; but perhaps you are not aware that you yourself have been duped.'

'No, indeed!' said M. Colonne with a smile; 'I am not so easily duped.'

'You think so no doubt,' continued M^{lle} Trompere, smiling in her turn. 'Still, it is true: you are a dupe all the time. Your daughter and M. Folitton know it well. They seek to escape suspicion of intrigue—the one from her father, the other from his wife—by boldly facing it out, and seeking to compel me, who happen to know all concerning it, to declare that their virtue and honour are unimpeachable. That I do not choose to do. They might content themselves, if they were wise, with the satisfaction of knowing that such matters as I am engaged to discover do not go forth to the world, but remain solely betwixt myself and them.'

'Admirable!' cried M. Colonne, amazed at this immense impudence.

'Yes,' said M^{lle} Trompere, smiling ironically, 'the case is so. Poor M. Folitton the other day was going to turn the world upside down because I would not contradict what I revealed to his wife. He threatened me with the police, and I know not what more. Let him do it: the result will be, that I shall be obliged to prove to the world the truth of all I have said, and in doing that I should not have much difficulty.'

'Well, well!' cried M. Colonne, fairly overcome. 'Talking is of no use here, I perceive!' and as he and his daughter hurried down the stairs,

the triumphant and derisive laughter of the somnambule tended by no means to the restoration of their good temper.

Andrè and his wife were just about to ascend as they arrived at the bottom of the staircase, and to them they related the result of their visit.

Proceedings were now immediately commenced against M^{lle} Trompere and her alleged father, and the latter shortly found themselves before the tribunal of correctional police. The case was made out so very clearly—Julienne, Marie, and Andrè, the sole parties whom the revelations of the sybil concerned, being arrayed against her—that she was immediately convicted of imposture, and the old man as a confederate. In the course of the trial the wig of silver hair was unceremoniously lifted from the head of the male prisoner by an officer of police. The change effected in his appearance by this simple operation was remarkable, and greatly to his disadvantage. The officer then read from his police record a list of no fewer than nine convictions for imposition and misconduct against the aged sinner. The female was truly, it appeared, his daughter. They had visited many parts of France and Belgium under different names, and the diligent inquiries of the police had been successful in establishing against them a long course of guilt—one scheme of imposture having been tried after another, and each terminated by disgrace and punishment. They were now sentenced to two years' imprisonment and a thousand francs fine.

All has gone brightly and pleasantly at Andrè's house since this unpleasant affair, and so will continue, it is my belief. Husband and wife seem on better terms with each other than ever. M^{me} Margot sedulously keeps herself out of the way of the Folittons and the Colannes, nor do I suppose she will ever take coffee with Julienne any more.

LIFE IN AN INDIAMAN.

MY first sea-voyage was made in the *Weatherly*, Captain Courtly: she was a remarkably fine old teak ship, of about 1500 tons burthen, built in Bombay for the East India Company, and so constructed as to be equally well adapted for trading or for war.

I joined the vessel as a midshipman (so called) on the 30th of November 184—, while she was lying in the river off Gravesend, in the berth usually allotted to outward-bound Indiamen, just abreast of Tilbury Fort. I recollect that it was one of those dull, drizzling days so prevalent during an English November, and so peculiarly disagreeable in the neighbourhood of London. I found everything on board in what I, in my ignorance, looked upon as irremediable confusion: the salt provisions and the cuddy-stores were being hoisted on board from a lighter alongside, and the deck was encumbered with casks and cases, which were deposited there previously to being lowered into the hold, and finally stowed away. A day or two prior to the date of my joining, a quantity of bar-iron, shot, and shell, had been received on board, the rust from which pervaded everything in a most extraordinary manner: this, combined with the mud brought from shore by boatmen and visitors, and the ceaseless drizzling rain, rendered the decks filthy beyond description. Everybody was bustling to and fro, apparently with some definite object in view, whilst I, lost and bewildered, although most anxious to be useful in some way, and to learn what was the nature of the duties which I should be called upon to perform in my new station, was pushed here, there, and everywhere, as if I were merely an encumbrance; for being myself unemployed, I contrived to place myself so as to incommode everybody else. At length one of the officers noticing, I presume, my lackadaisical appearance, sent me, more by way of joke than from any absolute necessity, with a message to an officer who was employed in another part of the ship, and it was then that my difficulties may be said to have commenced; for although, while standing upon the upper deck, I could distinguish the stem from the stern of the ship, I candidly confess that I was sorely puzzled when ordered to deliver a message in the After Orlop. However, burning with a desire to show myself smart, I dived down to the gun-deck, and roamed from the stern cabins to the manger without discovering any locality bearing that name: all my inquiries as to its whereabouts were answered by a broad grin, a horse-laugh, or a careless oath; and when I meekly asked where the officer of whom I was

in search was most likely to be found, I was informed in a perfectly serious tone that in all probability he was skulking in the cook's coppers, covered over with a ladle, or in the larboard binnacle, hidden by a spoon—or perhaps, which was most likely, stowed away in the till of the captain's shaving-box. At length, by dint of untiring perseverance, I found the person sought, and had the satisfaction of being well laughed at, the message having been delivered by another mid' just an hour before.

My total ignorance of the manners and customs on board ship (for I was fresh from an inland country town), and of the usual daily routine, exposed me to an infinite number of practical jokes: among others I was sometimes despatched in a great hurry to the carpenter, to ask him for the loan of his circular square, or some other unheard-of and impossible instrument; the old carpenter, who was up to the joke, always looked as grave as a judge, and sent back his compliments, and he was sorry that the tool had been unfortunately mislaid. When I was sent on similar 'goose's' errands to the boatswain, I generally received a thorough quizzing, and the advice to be a little more wide-awake in future. It was some consolation to me to observe that I was not the only one who was thus made sport of, for all the first voyagers, or greenhorns, were more or less imposed upon in proportion to their good-nature and credulity: and in the end I am sure it proved to our advantage, as it made us keep a 'weather-eye' open in self-defence, and might therefore be looked upon as the rudiments of our nautical education.

At one o'clock all hands went to dinner, and I groped my way to the mess-room, which had been previously pointed out to me. Here I found the fifth mate and two midshipmen (old stagers) eagerly swallowing a mixture of greasy water and cabbage leaves, called vegetable soup, of which they invited me to partake, and helped me very liberally; but seeing that I did not make much progress with it, they recommended me to try some of their delicious 'sea-cake,' at the same time handing me a seaman's biscuit of the roughest description, very different from those really excellent octagons which are supplied to the Royal Navy. After soup came a large dish of beef-steaks and onions—a most savoury mess, and highly inviting in appearance; but, alas! it was all outward show, for the beef defied mastication, and from that day to this I have nourished a strong aversion to beef-steaks. I found them to be the standing dish in harbour, for even in Bombay buffalo steaks, consisting of skin and gristle, appeared regularly every morning on our breakfast-table. Small-beer, called by my messmates 'swipes,' was to be had merely for the fetching, there being a large cask of it on deck for the indiscriminate use of all hands; and I can confidently assert that the midshipmen's mess had the lion's share, consuming probably as much as all the rest of the ship's company put together: fortunately, as the wine-merchants say of their claret, there was not 'a headache in a hogshead of it,' so that there was no fear of inebriation. The meat having been removed, long clay pipes were filled and lighted, and a few whiffs taken by way of a digestive; soon after which the boatswain's call summoned all to their respective stations.

After night-fall I was sent down into the hold, where a gang of men were employed under the third mate in stowing away cases, &c.; my duty was to hold a candle, and show a light when required. This employ-

ment always devolves upon the midshipmen, so that those in the East India Company's service were known by the nickname of 'Company's Candlesticks.' By our constant attendance in the hold whilst the cargo was being stowed, we had an opportunity afforded us of gaining much practical information as to the best and safest mode of arranging cargo of various descriptions—a science of no mean importance. When the stowing was completed, the men scrambled hand-over-head up a greasy rope to the deck above, a distance of about twenty feet—and I was expected to do the same; but gymnastics never having formed part of my education, I made many violent and unsuccessful struggles, amid the laughter of the lookers-on, before I could gain the orlop deck. After a little practice, however, I overcame this difficulty, and I think I should now stand a very fair chance of winning the leg of mutton surmounting a greased pole at a country merry-making.

Whilst I had been buried in the regions below, the live-stock had arrived, consisting of some hundreds of fowls, ducks, geese, and turkeys, besides a large number of sheep, pigs, a cow and a calf. I never heard such a Babel of sounds as was produced by these unfortunate creatures: by their cries one would have thought that they had a presentiment of the rough weather they were doomed to encounter, and their ultimate ignominious death. The pigs were especially uneasy—no doubt with that sagacity for which they are famed they saw the wind coming. The geese had an annoying habit of raising a simultaneous cackle every half hour: I have since noticed that these birds are capital judges of time, for as regularly as the half-hour expires, they raise their voices in a loud chorus, even before the striking of the bell. This, methinks, is a curious fact for the naturalists; I am ready to vouch for its correctness; indeed it is not difficult to believe, when we consider that the watchfulness of the geese saved the Roman Capitol. The odour arising from such a congregation of animals was worse than I had ever met with in the worst-appointed farm-yards; but on the gun-deck, where the midshipmen's hammocks were slung, the noise and smell, though of a different character, were infinitely more disgusting. The air was loaded with the perfume of bilge-water, fresh paint, gin, and beer, mingled with the fumes of tobacco, which issued from the fore-castle, where our tars lived. As the ship was to sail shortly, they were allowed the privilege of having their wives, sweet-hearts, and female relatives on board: both men and women were, with very few exceptions, half intoxicated; and laughing, singing, swearing, and even fighting, accompanied with language of the most revolting character, were kept up throughout the greater part of the night; and all this within a yard of the midshipmen's hammocks. Under these auspices I commenced slinging my hammock, and having succeeded in so doing, I vaulted in very dexterously, considering that it was my first attempt of the kind; but no sooner did I jump in on one side than I fell out at the other, and came with a violent concussion on the muddy deck, whilst the bed and bedding were strewn over and around me. After many attempts, with the like ill success, I at length found out the way of getting in properly; but with so much smoke and noise, and sometimes jostled by drunken females, sleep was altogether out of the question. However, I thought I should at least be allowed to rest my limbs for a few hours; but I had not been in my

hammock half an hour, before I was informed by a brother mid' that it was my watch on deck, and that he would advise me to relieve him quickly, as it was raining hard; so I turned out, excited and feverish, went on deck, and took my share of drenching. The oldsters were in the habit of shifting nearly all their night-watches upon the first voyagers, sometimes by bullying, and sometimes by trickery—of course without the knowledge of the officers; so that the juniors frequently spent half the night shivering on deck, not daring to leave their post until relieved. Such is a sketch of my first day and night on board, and such, I believe, is the usual state of an outward-bound Indianman off Gravesend.

The mess-room was of very moderate dimensions; so much so, that when all our chests were stowed therein, with the mess-table in the middle, it was only by close packing that we could all find sitting-room. Of the disgusting nature of the conversation which was daily carried on in this little Pandemonium, I will not say more than that it was far less refined than any that I ever heard among the seamen in the fore-castle; for in our choice assembly, if one of the young gentlemen, rather more sensible or better educated than the rest, happened to make use of a word which was not often employed, or tried to give the conversation a decorous or instructive turn, he was cried down as a 'walking dictionary;' or somebody would exclaim, 'Ah, there's Johnson again!' If a word was not understood, the speaker was interrupted with the question of, 'What ship's that?' So that all rational intercourse was immediately put an end to. He who volunteered an indecent or blasphemous story always found plenty to listen and applaud. In other respects our mess-berth was anything but a paradise. There was, for instance, no privacy: we all washed and dressed in the same berth, placing our basins upon our chests; or if there were not room for us all, some would go out on the gun-deck, and there perform the operations of the toilet—the admired of all beholders. The looking-glasses, razors, and other little nicknacks with which the first voyagers were invariably furnished by their accommodating outfitters, were always laid claim to as a matter of right by the oldsters, who never brought anything of the kind to sea themselves, shrewdly surmising that in every midshipmen's mess it was probable that there would be one or more greenhorns to prey upon. The motto with these unscrupulous gentry was this: 'What's yours is mine, and what's mine is my own'—a principle they always kept in mind and acted up to, in spite of all remonstrances. Among other things which my outfitter had put in my chest were a japanned candlestick and its appurtenances, three pounds of wax candles, and two or three cod-lines and hooks. Finding the candlestick take up too much room in my chest, I placed it on a shelf in the mess-room. It was soon discovered, seized, tossed from hand to hand amid many jokes, and at length, battered and bruised, was quietly passed overboard as a useless piece of furniture. I must confess that I could never assign any other reason for its being included among my necessities of outfit than that it might appear in the bill. The wax candles were begged, borrowed, or stolen so fast, that they all vanished in about a week; and the cod-lines, being of a handy size for making lanyards for knives and clothes-bags, were wheedled from me by some, and bullied out of me by others. My looking-glass was smashed before the expiration of a month, and my pewter basin squeezed into the

shape of a cocked-hat. The general habits of the 'young gentlemen,' to say the least of them, were disgusting. Smoking was permitted at meal-times, with its usual accompaniments. It was usual after tea (or supper, in nautical language) to pelt each other with the remaining grounds, the principal share of which always fell to the weakest.

When the oldsters were inclined for a little recreation, they fastened a rope's-end to the great toe of one of the unfortunate first voyagers, and by means of a bolt in the deck, triced his heels up, so that his head should trail on the deck. This was done with the intention of bringing him under proper discipline, as they termed it. By the by, this mode of coercion was never practised upon me, although I often saw it put in force upon poor Hodges, an incorrigible youngster, who certainly betimes allowed his tongue too great a license. The culprit was always kept in this unpleasant position until he asked pardon for the offence which had been alleged against him. The caterer of the mess was a very dexterous hand at throwing a carving-fork, by which means he preserved order and decorum when necessary. The punctures from this instrument were more sharp than agreeable, and few who had once been wounded were desirous of a second infliction, as I can testify from personal experience. It will be seen from what I have here written that our mode of proceeding was much the same as is to be met with in large schools, or in any place where boys are congregated. It is the nature of man, I fear, for the strong to take a delight in tyrannising over the weak; yet these little roughs and rubs undoubtedly wrought considerable improvement in my character, and instead of hardening me, rendered me better able to appreciate and sympathise with the sufferings of others.

Our voyage commenced with squally weather, and my sufferings were for the first fortnight intense. During this time there were incessant rain, squalls, and that terrible rolling motion which is caused by a confused sea. For three days and nights I stowed myself out of sight, in a dark corner near the pumps on the gun-deck, where I remained unnoticed, in a pool of rusty water, more dead than alive, receiving no nourishment, and wishing for death to come and release me. Being discovered, I was peremptorily ordered on deck, and told that nothing but active motion was required to cure me, although my messmates affirmed that nothing in the world would hasten my recovery so much as a lump of fat pork. From that time I always went on deck when the hands were turned out, was drenched with rain, pushed rudely about, and was ever and anon entangled in coils of wet ropes, or breaking my shins over some other impediment, and being thrown by the roll of the agitated ship into the lee scuppers. On one of these occasions, in the vain hope of saving myself, I tried to catch hold of one of the sailors who was standing near me; but unfortunately I only succeeded in obtaining a firm grip of the brim of his straw-hat, which giving way, I pursued my impetuous career with the fragment fluttering in my hand, until I was fairly laid sprawling upon my back to leeward. And yet amid all this discomfort—I may say *actual* misery—I could not help smiling at the disconsolate appearance presented by the few passengers who, weary of the confinement of their cabins, now ventured to show themselves upon deck, and brave the fury of the elements.

I have seen a group of five or six sliding from side to side in a sitting posture, utterly unable to help themselves, amid roars of laughter from those who had had the good fortune, or rather the good sense, to lay hold of a rope or a belaying-pin.

When I had found my 'sea legs' and sea appetite, and knew the names of the ropes and spars, I really began to feel an interest in what was passing around me: until that time all appeared to me like a very wild and oppressive nightmare. I was also changed in other respects; for before and during my sea-sickness the smell of rum was so distasteful to me as almost to produce nausea, and I was glad to give my daily dram to any of my messmates who asked for it; the smell of tobacco was also very offensive, and I often left the mess berth in order to escape from the dense fumes which frequently commenced before I had finished my dinner: but when I began to recover strength, and experience the reaction of health, I summoned courage to sip my grog, and found the stimulus thereby afforded grateful, if not beneficial; and before we had rounded the Cape, I could tip off a 'raw nip' (neat spirit) with somewhat of the unflinching nonchalance of a fore-castle man. By that time I had also become a smoker, having at first merely taken up a pipe in self-defence; nor can I deny that I had very cautiously commenced the practice of chewing—having been told that it was an indispensable accomplishment for a sailor—beginning with minute quids, and gradually increasing, until at length my cheek exhibited a goodly protuberance; so easy is it for youngsters to acquire bad habits, especially when encouraged by example, and liable to be constantly jeered at for their abstinence.

We passed the islands of Palma and Ferro at a great distance; after losing sight of them, we were blessed with a moderate trade-wind and fine clear weather, and made some very good days' runs. The ship improved much in appearance; the decks were beautifully clean; the crew were in good order and discipline; the passengers, of whom we had forty—the greater proportion of them young ladies going out on a well-known speculation—commenced promenading the quarter-deck; the weather grew perceptibly warmer, blue cloth jackets and trousers were discarded, and linen and duck worn in their stead. On Christmas-eve we were 16 degrees north of the equator.

Christmas-Day.—Divine service was performed in the cuddy by Captain Courtly, attended by many of the passengers, a portion of the crew, and all the young gentlemen. At one o'clock the midshipmen dined in their own mess-room, and the dinner was really a capital one; the captain had made us a present of several bottles of beer and wine, and a shoulder of mutton; this, in conjunction with potted meats and bouilli from our own stores, and a plumpudding, or 'duff,' as sailors call it, made a very substantial banquet. Everything was conducted with wonderful propriety and decorum, considering the wild character of the guests, and we finished by drinking to the health of 'all absent friends.'

On the evening of the 26th we had a variety of games, also fiddling and dancing reels, in which all the officers and midshipmen joined. This was the first day on which I had seen any flying fish, and now I saw them in hundreds; they appeared to be about the size of pilchards. When a whole flight of them drop into the water after their brief aerial tour, they

produce a sound as if a shower of pebbles had been cast into the sea from a considerable height.

Dec. 29th.—Becalmed. Many stormy petrels seen; these graceful birds resemble swallows both in shape and manner of flying, but are somewhat smaller; they are better known by the name of Mother Carey's chickens. A shark was seen prowling under our stern, as is generally the case when a ship is becalmed in these latitudes.

31st.—Light breezes. Lat. at noon 40' north. A few minutes after sunset we were all startled by hearing a tremendous voice hailing the ship from some unknown quarter, in the following manner:—'Ship ahoy! what ship's that?' Captain Courtly, who was willing to amuse his passengers, and seemed to enter with zest into the fun, answered through his speaking-trumpet in his usual clear tones, 'The *Weatherly*.' 'Where are you from?' was the next question of the invisible voice. 'From the port of London.' 'Where are you bound?' 'To Bombay,' was the reply. 'Have you any of my children on board?' 'Yes.' 'Then I shall come and claim them to-morrow,' said the stranger; and having thus notified his intentions, he was a moment afterwards seen floating astern in a blazing tar barrel. This was old Neptune himself, who seldom allows a vessel to approach his grand boundary line without a visit of this nature.

January 1st was an important era in my life, for on that day I first crossed the line, and was initiated into the mysteries of Neptune's court. A holiday having been previously granted to all hands, a grand procession was formed early in the forenoon, headed by the sailmaker, a humorous old man, who often made us laugh with his droll stories—a sad, drunken reprobate withal; he personated Neptune, in a fine spreading wig of tow, and, seated on a gun-carriage by way of throne, flourished a three-pronged grainse, which was supposed to be his trident. By his side was a bulky, swarthy-faced man, wearing a woman's cap and shawl, whom Neptune introduced with much gallantry as his wife; and to complete the classical group, one of the ship's boys, decked out in cast-off female finery, was placed behind them as their hopeful daughter. The old sailmaker, whose pleasantries were never offensive, passed a number of jokes upon the assembled passengers, paid handsome compliments to the pretty faces of the smiling ladies, and then formally requested the captain's permission to perform the customary rites; a request which was courteously granted as far as shaving the midshipmen was concerned, but any interference with the passengers was strictly and positively interdicted. The ship's company soon after went to dinner: we had scarcely finished that meal, when a strong body of sailors, calling themselves Constables, came down to our berth, singled out us novices, blindfolded, and led us upon deck, where a large tub, full of water, was prepared for our reception. On the edge of this we were seated, one by one, in turn, and questions were propounded to us by Neptune's head physician respecting the state of our health, our age, and length of service. Upon our opening our mouths to answer his interrogatories he immediately thrust in a large bolus, composed of materials of a most nauseous description, collected from the cow-house, hen-coops, pigsties, &c. This having been done amid awful sputterings from the victim, the barber was ordered to step forward and commence his important operations, which he did, nothing loath; and by way of prelimi-

nary, smeared over our smooth cheeks a lather of coal-tar, bleuded with other still more objectionable articles, and then roughly scraped it off again with a rusty fragment of iron hoop. The shaving being completed, we were tipped backwards into the tub of water, and allowed to struggle out as we best could under a shower of water which descended from all quarters, even from the fore and main tops. The bandage was then removed, and we were at liberty to join in the fun of drenching others as much as we pleased. The baker and two apprentices were the only persons besides the mids who were consigned to the tender mercies of Neptune's myrmidons. The boatswain's call was soon after heard, summoning all hands to 'splice the main brace'—a summons which was readily and cheerfully attended to, sailors being generally ready for a glass of grog.

The festivities having thus closed, my attention was forcibly directed to my head, which was beginning to smart from the effects of the new-invented pomatum with which my hair had been so liberally bedaubed. My first act was to ask the advice of an old quarter-master, whom I had engaged as my hammock-man and shoe-blacker, as to the readiest means of clearing my locks of the abominable nuisance. He smiled, and answered that he was acquainted with an excellent remedy, adding that mine was not the first case of anointing he had seen, as he had crossed the line scores of times in the course of his life. He went, therefore, to the cook's galley with a handful of oakum, which he plunged into the slush cask (slush is the skimmings of the coppers in which the fat salt pork is boiled for the ship's company), and returning to me, commenced rubbing the rancid, greasy mixture among my hair, and upon every part of my neck and shoulders where he perceived any blotches of coal-tar; the effect of this was to decompose the latter, so that it could be removed by the application of soap and water and a rough towel; and yet, in spite of all my exertions, my hair remained in a very unpleasant condition for a long time after.

Before leaving this subject, I may as well mention, as a warning to others, that myself and two other youngsters were prevailed upon, under false promises of being 'let off easy' (that is to say, spared the infliction of the bolus and the coal-tar), to pay the sum of one guinea each to Neptune; and after this, by a base breach of faith, we were forced to undergo the ceremony in its most disgusting form. But I laughed at the time, at the idea of having been so easily imposed upon, and I have laughed often since when I have thought of it. The fact was, that from the moment we first joined the ship at Gravesend we heard nothing else talked of but crossing the line; and even the men were always joking us about the terrible ordeal we should then have to pass through: with these exaggerated accounts always dinning in our ears, can it be wondered at that we gladly jumped at the chance of escape, or at all events of amelioration, offered by the payment of a few shillings? We must all pay for our experience, and many perhaps have paid dearer than we did.

When to the southward of the line, we met with light, variable breezes for many days, during which time we did not average more than three miles an hour, and were constantly exposed to pitiless torrents of rain. I was placed in the same watch with the senior midshipman, a rough, bullying fellow, who had particular orders to do all in his power to make me acquainted with the different parts of the ship, names and uses of

ropes, &c. When in a good humour, he would show me the different ropes, and explain everything relating to them in an agreeable manner; but in return for this condescension, he always insisted upon some concession on my part—such as my day's grog, the loan of some article of outfit, or that I should keep his watch while he skulked below, and be ready to call him instantly if he was missed and inquired for by the officer of the watch. When he was in a sulky mood he would send me aloft, generally choosing a time when the wind was high and the sea rough, and tell me to go out on each yard-arm, and point out to him the topsail and top-gallant sheets, and follow them up to their junction with the sails which they assisted to spread; and if, when I came down, I did not answer him satisfactorily, he ordered me up again with such a hurricane of maledictions, that I was glad to spring into the rigging. By a repetition of these practical lessons I rapidly gained the necessary knowledge, and became less dependent upon others; indeed by the time the ship had reached the line, I had recovered my spirits, and enjoyed excellent health, with the exception of a tendency to skin eruptions, produced by the change of living.

I do not recollect when I first went aloft to assist in reefing the mizen-topsail; but I well remember that it was before I had thoroughly recovered from my sea-sickness, and that I was almost bewildered by the hurry and noise attendant on the movements of a hundred and twelve sailors, all pulling, hauling, and bawling; the thunder of the sails as they shook in the wind preparatory to reefing, and the fierce roar of the angry wind itself as it rushed through the rigging. However, not willing to appear backward, I scrambled up to the mizen-topsail-yard awkwardly enough; and although I had not strength to be of the least assistance, I hung on desperately with the reef-points whipping my ankles most cruelly, and watched the proceedings of the reefers as well as the darkness of the night would allow. My cap and shoes very soon left me, and went spinning away to leeward into the sea; and to make matters worse, the first attempt I made to haul the wet and heavy canvas upon the yard cost me the whole of my finger-nails, which, being rather long, were torn off to the quick by a sudden jerk of the sail, causing the blood to flow freely. After this severe lesson I never went to reef or furl with my nails projecting beyond the ends of my fingers; and I also took the precaution of securing my cap with a rope yarn, and leaving my shoes upon deck. Before the feet become hardened, it is very painful to ascend the rattlins without shoes; but after a few months the soles assume a horny quality, and are entirely devoid of feeling, and shoes are discarded with contempt as useless encumbrances.

4th.—We were delighted at meeting with a homeward-bound vessel, which proved to be the French bark *Gaspar* from Guayaquil to Bordeaux, by which conveyance we sent a bag of letters.

10th.—Whilst divine service was being performed on the quarter-deck, and nearly the whole of the passengers were, or appeared to be, absorbed in their devotions, a sharp crack was heard, as of something giving way aloft, followed by a tremendous crash. All started to their feet—the passengers rushed into the cuddy, perhaps thinking that the ship had struck; the sailors looked up to the masts, and it was soon evident to an experienced eye that the mischief arose from the main-

royal backstays having been carried away, and this had caused both the fore and main-top-gallant masts to break short off. I never saw a more complete wreck; the sails were all set at the time of the accident, so that they were dangling and flapping about in a most ludicrous manner. There was very little wind at the time, so that we could only account for the mishap by laying the blame on the rottenness of the backstays. Not a moment was lost: bibles and prayer-books were thrown aside, the boatswain piped 'All hands clear wreck;' the men ran and took off their clean Sunday clothes, and in a few minutes the rigging was swarming with human beings. So actively did they work, that in a few hours the old broken stumps were down on deck, and new masts sent up in their place, the yards recrossed, and the sails reset.

12th.—Fine weather. A variety of games in the evening of an athletic nature—'sling the monkey,' 'baste the bear,' and 'high kokolorum,' all of the roughest, and attended with many hard blows and bruises; but they tended, as Jack says, to keep the devil out of our minds. Regularly, after work was over, in these fine-weather latitudes, the boatswain piped 'All hands to skylark.' every soul on board then considered himself at liberty to amuse himself as he thought best. The men generally congregated in the waist, and played at 'leap-frog,' 'hunt the slipper,' or one of the elegant games before-mentioned, or would gather aft and look on at the feats of the quarter-deck heroes. The officers and midshipmen made a tolerably large party by themselves, and often danced reels to the sound of a fiddle until compelled to desist by sheer exhaustion, and this with the thermometer at 70 degrees. The passengers would occasionally have a quadrille, and the ladies were nothing loath to have a smart young officer as a partner. There was a great deal of promenading after sunset, and tittle-tattle, and flirtation, when the young cadets were uncommonly killing in their own estimation.

14th.—A most delightful day. Passed the group of islands called La Trinidad, scarcely visible from the deck.

16th.—Suspecting, from the quantity of nearly fresh water brought up by the pumps, that there must be considerable leakage from the water-butts, examined those stowed in the forehold, and made the unpleasant, though timely discovery, that no less than seven thousand and forty gallons had leaked out from the second tier, which was wholly owing to the weakness and inferiority of the butts supplied by some rascally contractor. In consequence of this discovery, the allowance of water, which had been scanty enough before, was further reduced, so that we had only one quart per man daily. This was to serve for washing and drinking, for soup, tea, and coffee. We suffered intensely from this deprivation; so much so, that we took every opportunity of stealing water from the steward's cask when he incautiously left it unlocked. In our night-watches we often contrived to open a cistern in which rain-water was collected for the use of the live-stock, and although the beverage was far from being clean or palatable, we took such ample draughts, that the roguery was detected, and the lid of the cistern fitted with a stout padlock. Having lost this invaluable resource, we hailed with delight a heavy shower of rain, which, being caught in the hollow of a tarpaulin, was greedily sucked up in spite of its tarry flavour. An old soldier, who,

with his wife and family, were quartered in the berth adjoining our mess-room, sometimes took pity on us, and gave us a portion of his own small allowance, in return for which we supplied his family with the refuse from our table. I often used to think of the wasteful manner in which I had seen the servant-maids in England rinsing down the door-steps and pavement with nice sparkling spring water on Saturday nights, and the thought of it only made my thirst the more unbearable. We could have obtained water by putting into the Cape, but the captain did not think the emergency sufficiently great to warrant his thus delaying the voyage.

27th.—A dead calm. The surface of the sea moving in long undulations, but undisturbed save by a wandring zephyr or occasional cat's-paw. A boat was lowered, and a party sallied forth to shoot whatever might come in their way. They were successful in bringing down a fine albatross, which they brought on board, together with some masses of broad, ribbon-like sea-weed, which they had found floating on the surface, covered with venerable barnacles.

28th.—Quite an event. After long dallying with the bait, a shark swallowed the hook, and was triumphantly dragged on board amid the cheers of the sailors, both white and coloured. The watery savage struggled tremendously, and lashed his tail about with such force, that we were glad to give him a wide berth, for the blow of a shark's tail is sufficiently heavy to break a man's leg. When he was at length dead, the backbone was saved for a walking-stick, and the jaws and head were cleaned by the fifth mate, to take home as a chimney ornament. I tasted some of the flesh when cooked, and thought it hard in texture, and rancid in flavour; and yet it might be considered delicate after the golden-hued pork to which we had been so long accustomed. An albatross was caught on the same day by means of a hook baited with a morsel of fresh meat. These birds are frequently captured in this manner.

31st.—One of our steerage passengers struck a porpoise with the grainse, an instrument which bears a considerable resemblance to the trident of Neptune, consisting of three barbed prongs fixed at one end of a staff, the other end of which is loaded with lead, not sufficiently heavy to sink the staff entirely, but enough to immerse it a few feet below the surface, thus flinging the barbed extremity into the air. We made a bargain for this fish, and had some steaks of it broiled for our supper. The flesh was of as dark a red as beef, and resembled that meat in coarseness of texture, but was very deficient in flavour and juiciness.

February 2.—The weather being very fine, and the wind nearly at rest, Mr Smart, the chief officer, thought it would be a good opportunity to give the young gentlemen a little lesson in practical seamanship. So at nine o'clock the midshipmen, boys, and idlers, were all ordered aloft to practise reefing and furling the mizen-topsail. This was very hot and fatiguing work, but of course it was calculated to do us great service. We had to go through the whole of the operations several times before the task was executed with sufficient smartness to give satisfaction. The only thing complained of was the excessive thirst produced by working so many hours under a tropical sun, for we well knew that the water-bucket in our berth was as dry as a bone, and that the fowl-cistern was under key and padlock.

4th, 5th, 6th.—Calm, sails flapping heavily against the masts, in consequence of a long continuous swell, which caused the vessel to roll lazily from side to side, a movement by which the rigging was much strained, and the masts and yards kept constantly working, producing far more wear and tear than a gale of wind. A long-continued calm tries the patience of all on board, but more especially the captain, for whether there be wind or not, at four o'clock every day there are forty passengers clamorous for their dinner, eating and drinking being the grand business of the day with them; and the ingenuity of the steward is put to a great test in providing a sufficient number of dishes. Nay, dishes there are in plenty, but, generally speaking, their contents are most ridiculously scanty. The poultry had died off by scores, the sheep were running short, pigs, too, were scarce; so that, in spite of the ingenuity of M. Antoine, the French cook, salt-beef, from the harness-cast, in all its native ugliness, was a standing dish—a veritable *piece du resistance*.

The passengers, too, were getting weary of the ship and of each other; a newspaper was set on foot, but speedily given up by common consent, on account of the personalities which crept in, and the scandal which was circulated through the medium of its columns.

Stories were circulated of ships which had been detained in the same spot for upwards of six weeks, neither moving backward nor forward one inch; and we all confessed, with lengthened faces, that from the general appearance of the weather, such was very likely to be our own case. At length a cat's-paw was seen—the yards were trimmed; from the cat's-paw sprang up a steady breeze, and one that seemed likely to increase. Towards evening it had drawn aft, and surely, though gradually, freshened to a gale.

I shall never forget my first night off the Cape in a north-wester. Our cargo was principally bar-iron and shot; and a few dozen of the latter, from some little oversight in the stowage, got adrift about midnight, and were bounding and dancing over the bars, and rushing from side to side at each roll of the ship with a roar like thunder. It would have been almost certain death to venture into the hold, in order to check these missiles in their mad career, so the more prudent course was adopted of throwing down a number of bales of hay, which checked them, and deadened their velocity sufficiently to enable us to secure them one by one, and stow them in places from whence they could not escape. It was my first watch—that is, from eight P.M. to midnight; when it was over, I gladly turned into my hammock, and in spite of the roaring of the wind, the creaking of the bulk-heads, and the smell of rotten cheese (arising from a private speculation of the carpenter's, whose storeroom was abreast of my hammock), I fell asleep. At about three o'clock in the morning, the head lanyard of my hammock either broke or was cut by some malicious person, and I found myself, quite unexpectedly, sprawling upon my back upon the chain cable, which was ranged on the deck immediately under my hammock. The back part of my head had come in contact with the iron-bound corners of a sailor's chest, and was bleeding profusely from a deep, triangular wound. When I had somewhat collected my scattered senses, and comprehended my situation, I jumped up, ran into our berth, bound a handkerchief tightly round my head, and then commenced reslinging my hammock, standing meanwhile barefooted in the rusty water which flooded the deck,

and groping in darkness for the blankets and pillow, which, when found, were dripping wet. While thus occupied, I heard the boatswain's shrill call, followed by his hoarse voice, rolling along the gun-deck—'All hands reef topsails. Bear a hand here, young gentlemen. No time for tying up your garters when the ship's overboard!' Half-stunned as I was by my late blow, I went up with the rest, and the first thing that met my eye to windward was a large waterspout apparently bearing rapidly down towards the ship. One of the quarter-deck guns was loaded, and pointed in the direction of the advancing column; but just as the order was about to be given to fire, it dispersed, being at that time about a quarter of a mile distant. Scarcely an hour had elapsed, during which we were employed in shortening sail, when a whirlwind was seen smoking along, which appeared to be large enough in circumference to swallow us up with ease. Every eye gazed on it with some anxiety as it came swiftly onward, the waters whirling and boiling with inconceivable velocity, and all felt greatly relieved when it passed ahead of us, although not more than twenty yards from our jib-boom end.

The topsails having been reefed, I went below again, and requested the doctor to examine my cranium. Having cut away some of the clotted hair, and probed the wound, he declared that the skull was intact (although, I imagine, judging from the scar which remains to this day, that the bone was considerably indented), and dismissed me with a strip of adhesive plaster, not even offering to apply it for me; so I went to the galley, and with the assistance of the captain's cook, the ingenious Antoine, mended up the gap in a very secure, if not in a very scientific manner. The cutting down of hammocks is a common practical joke, but then it is usually done upon the humane system of cutting the foot lanyard, which is not dangerous. In the midst of this rolling, confusion, and bloodshed, we rounded the Cape of Good Hope. When dinner-time arrived, as the rolling was still incessant, we found that nothing could be persuaded to remain in a state of quiescence for a single moment upon the mess-table, notwithstanding forks were stuck into it in every available position; so, acting upon the ingenious suggestion of our caterer, we turned our table legs upward, placed the soup tureen and plates inside, and then squatting down upon the deck, took a mouthful whenever a convenient opportunity offered, each man of course helping himself, and looking out to keep his own plate on a proper balance. The soup having been disposed of, some on the deck, and some down our throats, the pork was brought in; and as no dish could be expected to live through such a gale, it was placed for safety in the tureen, and then, holding biscuits in our hands by way of platters, we each cut off a portion with our pocket-knives; the mess knives and forks had mostly rolled underneath the chests, and were consequently smothered in tobacco-ashes, &c. This was all done amid much laughter and merriment; many ludicrous upsets took place, generally ending in the smash of some article of glass or crockery which we could but ill spare. It would be difficult to form an idea of the fun which a scene of this kind creates: whilst one is laughing at his neighbour's disaster, he gets his own lapful of pease-soup, and another finds himself rolling amid a shower of plates, tin pannikins, pork bones, and other débris upon the sloppy deck.

Just opposite to the door of our berth (we had been removed farther aft during the passage), which now looked out on the square of the main-hatchway, the third mate slung his cot; and sitting astride on this, with their dinner between them, he and the fourth mate were congratulating themselves upon the cleverness of their manœuvre. Just at this moment the ship's bell, weighing about one hundred weight and a-half, which was hung on a hook, as is usual at the fore-part of the mainmast, having been unhooked by a loose rope, descended the hatchway like a meteor, chipped the steps of the ladder, grazed the cot upon which our worthies were discussing their viands, passed within an inch of both of them, and then alighted on the deck, making a very deep indent in the teak, to mark the spot where it fell. As nobody was injured, we all laughed heartily at the adventure, but it was really a narrow escape for the officers.

8th.—More rolling and reefing. Immense destruction of crockery in the mess-room.

27th.—Poor old Daniels, A.B., departed this life. The doctor pronounced the cause of his death to be old age and diseased lungs. He was a quiet inoffensive old man, and had latterly been so imbecile and helpless that he was not much missed. We buried him next day with the usual ceremonies. The body was stitched up in a hammock, with two or three cannon shot at the foot to sink it; it was then laid at the gangway upon a grating, the whole decently covered with a Union-Jack. All hands were called to 'bury the dead;' the crew were ranged in order along the deck, the officers grouped around the captain, who, when all were bareheaded and attentive, read the service in a distinct voice; the grating was sloped, and the lump of canvas, still retaining a ghastly resemblance to a pallid, swollen corpse, slipped off, and plunging into the sea, was immediately out of sight. That dull, heavy plunge haunted me for many hours afterwards, I know not why, save that it was a sound which had never before struck my ear. Since then, I have seen so many poor fellows, soldiers and sailors, passed over the gangway, that the sound leaves now but a momentary impression.

From this time forward until Good Friday (April 9), which embraces a period of about five weeks, we had a wearisome succession of calms and light winds: the latter being fortunately in general from a favourable quarter. We still continued upon the short allowance of water before-mentioned—namely, one quart per diem for all purposes; and had it not been for the assistance of these fair breezes and smooth sea, which enabled us to slip along at an average rate of three miles an hour, we should inevitably have been placed in the disagreeable dilemma of having only a pint. As it was, we were beginning to think such a catastrophe far from improbable, and it was with great joy, therefore, that on Good-Friday we saw two native vessels, which, from the course they were steering, we judged had lately sailed from Bombay. We hailed these vessels, and upon their heaving to, sent a boat on board with an officer to ask them if they had any water to spare. The poor fellows, although their stock was but small, and they had a long voyage before them, willingly gave a portion. Their joint contributions, however, did not amount to more than eighty gallons; but as we might now hope, with a moderate breeze, to reach Bombay in a few days, and we yet had a little of our

old stock remaining, this small addition removed all anxiety upon the subject.

On nearing Bombay, it was pleasing to mark the joy which animated the countenances of the Lascar portion of our crew. Many were the questions eagerly put as to the latitude and longitude at noon, and the probable time of arrival. Their love of country must be stronger, I think, than that which exists in the breasts of us phlegmatic Europeans; or, if this be not the case, their ardent and earnest manner of expressing themselves would naturally lead one to suppose so.

About a week before sighting our destined port, a holiday was allowed to the Lascars, in order that they might have an opportunity of duly celebrating a religious festival, known to us by the name of *Obson Jobson*. On this grand, and to them solemn occasion, they all attired themselves in their smartest scarlet turbans (variegated cotton skull-caps embroidered with gold) and robes of snowy whiteness; and in the afternoon went through a variety of strange uncouth dances, accompanied by much stamping of the feet to a certain slow measure, with a wild and yet not unmusical song, in which at certain intervals all joined in chorus. From the darksome recesses of the fore-orlop (the part of the ship appropriated to the use of the Lascar crew) arose clouds of incense, and there were performed many mysterious rites, of which the Europeans were not allowed to be witnesses: indeed our men had previously received strict orders not to give needless offence by impertinent intrusion. I gathered from some of the Lascars afterwards that each man had to pass through some kind of sword ordeal, the exact nature of which I could not precisely comprehend; but it appeared to me that it was resorted to in order to discover whether any of them had proved unmindful of their religious duties since the last *Obson Jobson* festival. Towards night they danced upon deck in rings to the sound of tom-toms, and their own monotonous and melodious chant, at the same time flourishing naked cutlasses—kindly supplied by the captain for the nonce—and long poles decorated with red streamers. This amusing, and to me perfectly novel spectacle, was at length put a stop to by darkness.

April 10th to 12th.—A strong breeze; ship making rapid progress, and every heart beating in joyous anticipation of seeing land. A number of bets were now made amongst the passengers as to the probable day, and even hour, of our arrival in Bombay. A fifteen-pound lottery was also established, tickets five shillings each: on each ticket was written a certain day and hour, and the fortunate holder of that ticket upon which was written the exact time that the ship came to an anchor became the winner. When the captain happens to be the holder of the prize-ticket, there are always many most uncharitable insinuations, made to the effect that he has retarded or accelerated the speed of the vessel by his management of the sails, in order to insure his own success.

13th.—One of our coloured crew, a Seedy, or native of Madagascar, died after a short illness this morning, and in the afternoon was thrown overboard by his messmates, without any religious ceremonies that I was aware of.

This day we were favoured with a strong breeze on our quarter, which was undoubtedly our best point of sailing. With every stitch of canvas spread, our ship was truly a magnificent sight. I have often seated myself

upon the waist hammock-nettings on a clear moonlight night, and looked aloft with feelings of intense admiration at the mighty cloud of swelling canvas above me, and inwardly exclaimed that of all the works of man, a gallant East Indianman of the olden time is one of the most beautiful to look upon. The water was very smooth, notwithstanding the freshness of the breeze, and we bowled cheerily along at the rate of ten miles an hour. In another day we expected to see the land, and you may imagine that I was all impatience to gaze upon the sunny shores of glorious Ind.

Having now brought the good old *Weatherly* within about a day's sail of the much-desired haven, I purpose devoting a few pages to miscellaneous matters mostly connected with the manners of living and the daily routine of existence on board an Indianman. The times appropriated to meals are as follow:—Breakfast at eight; dinner at noon; supper at half-past five or six. Our allowance of meat was the same as that of the men—namely, salt beef and salt pork on alternate days. Upon Thursdays and Sundays, which were beef days, a certain quantity of flour and suet was served out, in order to make a pudding, the mixing of which was performed by our mess-boy, one of the apprentices. The beef had been so long in pickle, and had consequently grown so uncommonly hard, that a very small portion went a great way. It was so destitute of fat, that I have seen two mids, who had hitherto been on the best of terms, become the most bitter enemies, merely from the circumstance of one purloining a fragment of fat from the plate of the other. I have heard people declare that capital durable snuff-boxes have been made of this salt-junk, or salt-horse, as it is usually called. Upon pork days we had pea-soup, which, in the way it is made at sea, is a very nice thing. I believe the only ingredients are soft water and peas—enough peas should be used to make the soup of the consistency of thin paste. On board ship, when the peas do not mash up readily, from the hardness of the water, a little soda is added; and occasionally the cook puts a round shot into the coppers, which, from the constant motion of the vessel, acts as a sort of crushing machine. Sometimes a few lumps of fat pork are boiled up with the soup, at others a red herring, which enhances the flavour greatly. Peas-pudding (*alias* dog's body) is often allowed upon pork days, which is serviceable in counteracting the greasiness of the meat.

Our pork itself was as destitute of lean as the beef was of fat, and from the effects of age, had become so rusty, as to be as yellow as a guinea. But the biscuit, or, as we called it, sea-cake, was perhaps the worst article supplied; from age and dampness it had contracted a very musty taste, and was literally moving with weevils and their grubs—the latter much resembling their cousins the nut maggots. Before eating it, we were forced to give it several sharp raps on the table, in order to dislodge the little strangers from their snug retreats. The water, which was from the bosom of old Thames, and which is notorious for going through seven separate stages of putrefaction before it is in a fit state for use, had, during the latter part of the passage out, become so inky in hue, so odorous from the quantity of sulphuretted hydrogen it contained, that, had it not been for excessive thirst, we should have cast it from us with disgust. As it was, we were always fain to strain it through a towel or

piece of rag before we could make it available for drinking. When it was my turn to go down into the forehold, and take care that the candle was safely placed while the water was being served out, I have seen a blue flame playing around the hole when the bung was removed. On one occasion, when the cooper took out the bung, and stooped down to smell the water, in order to ascertain its condition, he inhaled some foul gas, and went staggering from cask to cask like a drunken man. Notwithstanding the indifferent nature of our provisions, which were certainly worse than I have ever met with since, we always made a hearty meal; for our exposure to the open air gave us enormous appetites; besides, we had a few little dainties in our own mess-store, towards the purchasing of which each man had paid down £15 at Gravesend. These stores were of course used very sparingly. They consisted chiefly of hams, tongues, pickled tripe, Normandy pippins, cranberries, pickles, and cheeses, with a few tins of bouilli. We generally had our cranberry-puddings boiled in a deep pewter washhand basin, of the Manbrino's helmet form. Sunday was the day for the appearance of some of these dainties, when we also mounted a nice clean tablecloth, and tried to make as respectable an appearance as possible; but, curiously enough, we seldom ate our Sunday dinner in peace. Sometimes a squall came up, which rendered it necessary to take in the royals; at others a vessel was in sight showing signals, which we were called upon to answer.

One fine Sunday during this passage we were sailing pleasantly along on the starboard tack, with a moderate breeze and a lively jumping sea; divine service had been duly and decorously performed; all the mids were in their best togs—blue jackets, white ducks, and glossy pumps; the boy had laid the tablecloth, and displayed to the best advantage our rather diminished stock of glass, crockery, and Britannia metal; the soup was brought in, a splendid mess of preserved bonilli; then came the second course—salt-horse; the caterer commenced carving; we were all watching him with hungry eyes, when a mighty green wave came rushing in at the open port-hole, and washed caterer, mids, beef, plates, knives, forks, spoons, and all out at the cabin-door; and worse still, as the very climax to our disaster, the boy was just entering with the plun-duff, and coming face to face with the watery intruder, was taken off his legs, whilst the unlucky duff went rolling into the lee-scuppers. The man at the wheel had luffed up the vessel rather suddenly, which was the cause of the mishap; but as it happened two or three times, we suspected that it was done intentionally, by way of joke, perhaps by the orders of the fourth officer, who dearly loved a lark. Of course after this our dinner was a scramble; the beef was not injured, and the duff was just eatable. By dint of energetic baling and swabbing, we got the berth dry again in an hour. In spite of this inconvenience, we always preferred running the risk of shipping a sea to keeping the port closed, in which case we had no light save that afforded by a small swinging-lamp, which never could be coaxed into brightness.

Besides the amusements before-mentioned of dancing and athletic games, we seldom found anything to divert us, or to relieve the monotony of a sea-life, so that any circumstance which afforded a little fun or excitement was hailed with delight. One incident of this kind is so fresh in my

recollection, that I am tempted to record it. After we had been to sea a few weeks, the young cadets who, at the commencement of the voyage, suffered awfully from the 'mal du mer,' got their sea-legs, and at the same time recovered their usual conceit and self-sufficiency. Consequently, when they saw the mids clambering aloft every day like so many monkeys, they felt a lively ambition to do the same. One afternoon, when it was nearly calm, several of the young *militaires* issued out from their dinner in high and vinous spirits, and burning to distinguish themselves in the eyes of the ladies by some remarkable achievement. Ere many minutes had elapsed, a few of the most active and enterprising were seen plodding their way up the mizen rigging. Now it is a long-established custom, and, in my opinion, a very excellent one, to secure hand and foot all such landsmen and novices as shall venture aloft for the first time, and not to release them until they have either paid their footing in coin of the realm, or made a solemn promise so to do if released. Accordingly, our young adventurers were no sooner three parts up the rigging, than half-a-dozen fine active young fellows of our crew, who had been slyly watching their opportunity, sprang forward, each provided with a stout lashing. The cadets, who, it is to be supposed, had some notion of the custom before-named, beholding these formidable preparations, now strained every nerve to escape; and a chase commenced which kept all hands in a perfect roar of laughter. Young Hoppner, however, a six-foot youth, afforded the finest sport. A sailor had caught hold of one of his feet, upon which he with much dexterity slipped off his boot, and again scrambled upwards until intercepted by the futlock rigging beneath the mizen-top. Whilst endeavouring to struggle through lubber's hole, his nimble pursuer grasped his other foot, and was again left with the same *booty* as before. The indefatigable Hoppner having wriggled into the top, jumped from rattlin to rattlin of the topmast rigging, but without his boots, he found the pain so unbearable to his tender soles, that he seized one of the backstays, and slid like lightning to the deck, thus escaping from the disappointed tars, who were quite astonished to see such spirit and agility displayed by a 'lanky lubber of a landsman.' Poor young Hoppner had evidently been aloft before, but I doubt whether he had ever before slipped down a backstay, for the whole of the skin was stripped, or rather burnt, from the palms of his hands, which generally happens to inexperienced persons making a rapid descent of this nature. Whilst this exciting and amusing chase was being carried on, the other cadets had been captured, and tightly lashed, hand and foot, to the shrouds; nor were they released until they had consented to pay a liberal footing. They had all the good sense to look upon the whole affair as a capital joke, and I believe their captors were very well satisfied with the ransoms obtained.

The second mate usually assists the captain in his navigation. He and the third mate keep alternate watches, and while on deck, are responsible for the safety of the ship, and the proper management of the sails as the wind varies. Great vigilance is required in watching the changes of the weather, which are sometimes very sudden, and show no warning of their approach. The third mate messes with the fourth, and, as I have before said, has charge of a watch, at which he is equally responsible with the second mate for the wellbeing of the vessel, and must always be careful

to keep his weather-eye open. Sleeping while on watch is one of the greatest crimes of which an officer can be guilty, and is punished accordingly. The fourth mate is not usually permitted to take charge of a watch, but does duty on deck with the chief mate, remaining forward, and attending to the trimming of the head-sails, under the direction of his superior. If, however, any of the other mates are ill, the captain can appoint him to do their duty if he thinks him competent and trustworthy. The third and fourth mates are respectively invited to dine with the captain once a week. The fifth mate messes with the midshipmen, and is their caterer. He assists the second mate in his watch in the same manner as the fourth assists the chief mate. Some of the largest-sized East-Indiamen carry a sixth mate; the *Weatherly* did not, therefore I scarcely know what are his duties, but I presume that he was placed in the same watch as the third mate, to render him such assistance as lay in his power.

The boatswain and carpenter of our ship were personages of very considerable importance, as is probably the case in all vessels of equal tonnage; but our carpenter was held in especial respect, being a remarkably shrewd, clever, and well-educated man; not only a perfect master of his own craft, but a proficient in the science of navigation, and well-informed upon all useful topics; in fact he was competent, in case of any great emergency, of taking charge of the ship. He, as well as the boatswain, had been in the East India Company's service; and some of the midshipmen hearing them say that they still had their old Company's uniform coatees in their chests, coaxed them, with much difficulty, to wear them one Sunday at muster; but such was the universal laughter produced by the appearance of their ridiculous little bobsails, that the abashed warrant officers speedily dived, vowing that from that day forward they would never again be made fools of by a set of boys. The uniform of the superior officers was, on the contrary, very handsome and becoming; swords were worn by them, and dirks by the midshipmen. One day I was ordered by the captain to send the carpenter to him instantly, he having discovered a leak just over one of his book-shelves; I hastened to perform his bidding, and going boldly to the carpenter, said, 'Carpenter, the captain wants you in his cabin directly.' The person thus addressed looked at me with a quiet, and perhaps somewhat contemptuous smile, but not deigning to take any further notice of me, he calmly resumed his labour. I repeated my message, and insisted on the urgency of the case, when the 'carpenter,' as I had unwittingly called him, who was a tall, noble-looking old man, drew himself up to his full height, and said in a deliberate manner, 'Young gentleman, I am the carpenter of this ship, but my name is not "Carpenter," but Mauley; and you will further understand that I have a handle to my name: you will therefore please to address me in future as Mr Mauley;' saying this, and smiling kindly, he hastened to obey the captain's summons, leaving me 'taken aback,' but not offended at his just and plain-spoken rebuke. I found on inquiry that both himself and the boatswain were entitled, by usage immemorial, to insist upon the addition of 'Mr' to their surnames, and I never again gave offence on that score. In every ship where proper discipline is maintained, these matters, trifling as they appear, are strictly attended to, and with good results. In the next ship which bore me to the East, a craft of about 700 tons burthen,

the carpenter, a rough hardy Swede, rejoicing in the name of Burstrom, was not offended in the slightest degree at being called 'Chips' even by the black cuddy servant!

The midshipmen are divided into watches, according to their number, two or three in each watch. Sometimes they are appointed to keep the same watches as the mates, so that each mate may always have the same mids in his watch. This is very pleasant for the mids when they are upon good terms with the officer to whose watch they belong. We were made to keep watch and watch (which is four hours on duty, and four hours off, alternately), until after we left St Helena upon our homeward passage, when we were indulged with three watches.

The midshipmen are invited two and two, by turns, to dine in the cuddy. We all disliked this ceremony very much, on account of the inconvenience attendant upon dressing in our wretched dark and dirty den. The ale and wine we were allowed on those occasions were declared by some to be the only redeeming points. Conversation there was none; the passengers appeared to view us with contempt, and the captain seldom condescended to speak to us except in a jeering manner for his own recreation. When I received my first invitation to dine in the cuddy, I was considerably agitated, and naturally asked my messmates a few questions as to the usual etiquette practised upon such occasions; and they, always ready for a joke, told me that it was necessary upon my first entering the cuddy to make a formal bow to the captain, and then to make another, equally ceremonious, to the chief mate. I followed these instructions literally, and I have no doubt that my bows were pre-eminently graceful, for I could see both gentlemen smile approvingly as they returned the salutation; but why they should suddenly turn away their heads, and smother their faces in their handkerchiefs, I could not at the moment conceive. With my white kerseymer waistcoat, blue swallow-tailed coat, with tremendous double-gilt East India Company's buttons, stockings of immaculate whiteness, and polished dancing-pumps—it is scarcely possible that they could have found food for laughter in my personal appearance. Be this as it may, experience maketh wise; and from that time henceforward Captain Courtly never received any more politeness from me than was actually required by the discipline of the ship.

Place a landsman on the quarter-deck of a first-class Indiaman after she has been two months at sea; let it be on a fine Sunday forenoon, just before the hands are turned out to muster, and when every rope is belayed to its proper pin, and the spare ends arranged carefully on the deck in Flemish cheeses, fakes, and figures of eight; when the hammocks are neatly stowed in the nettings, and the deck is so smooth and clean that it seems a sin to tread upon it—and that landsman will say, 'Everything is perfect, everything complete, everything in its place; there is nothing in the world to do, so we may put our hands in our pockets and rest contented for a while.' But the chief mate, that unwearying taskmaster, knows better, as will be best shown by the following rapid outline of the employments of men and midshipmen during one day, which may be taken as a specimen:—

At four o'clock in the morning the chief officer's watch commences. The watch scrub, wash, and sometimes holystone the decks. The midshipmen and apprentices scrub and wash the poop, and then swab it up dry, taking

a laudable pride in having their deck whiter than any other; but, by the by, teak decks, owing to the natural colour of the wood, never look white, however clean they may be, although the tint is very pleasing, and affords relief to the eye in a glaring sun. The midshipmen are expected to pump all the cisterns full communicating with the quarter galleries, which is never less than an hour's job, and very severe exercise. At seven bells (half past seven) the hammocks are piped up; and then, will ye nill ye, every man who possesses a hammock must jump up, lash it neatly, and take it on deck. When all are brought up, they are carefully stowed in the nettings by the quartermasters, under the superintendence of two young gentlemen who are called up from their watch below for the purpose. If any of the hammocks are lashed in a slovenly manner, or merely bundled up in what is called a 'midshipman's roll,' the owner is punished by stoppage of grog, and made to secure it in a more ship-shape manner. Another midshipman of the watch below is turned out at six o'clock, to go down in the hold and act as a candlestick whilst the cooper pumps the water into buckets for the use of the ship's company during the day. I often used to drop asleep whilst holding the candle, much to the annoyance of the poor cooper. The purser, whose duty it is to see that the water is properly measured out, sits in an easy-chair upon the gun-deck, close to the hatchway, with his legs crossed, and smoking a Manilla cheroot, or sipping his coffee with the air of an Eastern prince. Our purser, who had risen from the situation of cooper, looked with extreme contempt upon the poor midshipmen, and openly expressed his anger when he saw that our names had the precedence of his own in the ship's articles. He would have been very friendly and obliging towards us if we had once admitted his superior rank, but this was a concession which we never felt any inclination to make.

At eight o'clock, pipe to breakfast: half an hour is allowed for that meal. After breakfast the watch on deck are set to work under the boatswain, repairing defects in the rigging, putting on Scotchmen—that is, chafing battens made of split bamboo—making spunyarn, sinneth, gasketts, mats, robands, &c. The mechanics—by which are understood the armourer, carpenter and his mate, the cooper—all set about their proper occupations. The sailmaker and two or three expert workmen repair and alter sails as necessary. The midshipmen of the watch on deck run errands, or sit down and paint ropes, or, if squally, clue up and furl the mizen topgallant sail, or royal; and when the squall is over, set them again. Of course in case of a shift of wind the whole watch is required to haul upon the braces; and the mids, although not compelled to pull, are always ready enough to lend a hand; indeed he must be an incorrigible lazy one who could stand and look on without a desire to 'pull his pound.' Time slips away quickly thus employed. When a midshipman's watch on deck is over, his watch below, as it is called, commences, and he gets but little time to himself, as it is usual to make him keep watch in the hold when the hatches are taken off for the sake of ventilation. I have spent many hundreds of melancholy hours in this gloomy employment, with no other companions than rats and cockroaches; no sound save the monotonous rippling of the water against the bends; no smell save the odoriferous exhalations of the bilge-water; and no sight save dingy casks and cases, bar-iron, shot, and small coal. At noon the boatswain pipes to dinner. One hour is allowed the men for this

meal; the mids only get half an hour, as they have to relieve each other (I allude to those who have the watch on deck); the oldsters are very apt to take the lion's share of this hour, and leave only ten minutes for their unfortunate messmates or watchmate. In such cases retaliation in the same coin is generally resorted to, which ultimately brings the subject under the notice of the officers, who insist upon justice being done.

After dinner the jobs of the morning are resumed. At five, the sailmaker stows his sails away; the spunyarn, mats, &c. are put in the boatswain's locker; and the boys get their brooms, and give the decks a clean sweep fore and aft. At half-past five, or thereabouts, the crew are sent to supper, for which half an hour is allowed. After supper the hammocks are piped down; all hands come on deck, and each fixes on his own 'dreaming bag;' midshipmen are stationed to preserve order and regularity; at a signal from the officer of the watch the boatswain 'pipes down,' which is done by a peculiarly prolonged stridulous whistle; away dart the men simultaneously, and tumble one over the other down the fore and main hatchways, laughing and jumping like so many boys just escaped from school. Thus ends the working-day. The amusements and skylarking after working-hours have already been detailed.

On Sunday, when the weather was fine, and there were no squally appearances to windward, we had divine service performed upon the quarter-deck, which, together with the poop, is covered by a stout canvas awning, and shaded by curtains of the same material. The capstan is decorated with an ensign, surmounted by a cushion, a Bible, and a Prayer-book, and thus serves as a reading-desk for the captain, alongside of whom stands the doctor or purser, to make the responses. All the cuddy chairs are set round for the use of the passengers, whilst the crew are seated upon capstan bars, with either end resting upon a bucket: when the ship is lively in her motions, these rickety seats cause a corresponding liveliness in the sitters, who sometimes go, half-a-dozen at a time, sprawling to leeward. When the weather is wet, and the wind unpleasantly strong, the service is performed in the cuddy, when all the men are at liberty to attend, but the majority prefer passing the time in their hammocks. During the first few Sundays in the voyage, Captain Courtly also read evening prayers in the cuddy, and insisted upon the attendance of all the young gentlemen. At these times he favoured us by reading a discourse out of some old sermon book; but his choice unfortunately was bad, for the lecture was so long, and so purely doctrinal, as to set the whole of his congregation a-yawning.

Sunday is a day of rest as far as wind and weather will permit, but in the course of my experience I have seen more squalls and gales, and reefing and furling, on Sundays than on any other day in the week. The crew are all dressed in their cleanest white clothes, and lounge about, pipe in mouth, on the fore-castle. Those who can read, eagerly devour everything they can lay hands on in print, and drawl it out aloud for the benefit of a group of attentive listeners. The variety of their recreations is rather amusing: I have heard one man reading aloud from the 'Quaver,' a collection of 1000 songs, toasts, and sentiments; another spouting some modern melodrama; another engaged in a thrilling penny romance; whilst here and there, apart from the rest, was a solitary old graybeard quietly reading his Bible, with a short black pipe or dudheen between his teeth.

April 15th.—At half-past six, in the last dog-watch, the loom of high land was seen bearing from the ship north-east by east—a welcome sight for the poor mids, who were now at their wits' end for clean linen; many of them had been in most awkward dilemmas for want of a decent shirt, especially when invited to dine with the captain. The steward was instructed to invite the young gentlemen, each in his regular turn, which he accordingly did; but when the party invited happened to be short of clean linen, he would swear positively that it was not his turn, or be suddenly seized with a violent headache; and the poor stoward, after being banded from one to the other, would indignantly leave it to be settled amongst themselves—merely hinting that, out of respect to the captain, *somebody must come*; so that he who had best economised his wardrobe at the commencement of the passage dined most frequently in the cuddy towards the sequel: a circumstance which, even if noticed by the captain, would have been a source of amusement to him rather than of displeasure. I have often, when awakening on a Sunday morning, burst into a cold sweat, and my heart has sunk within me when the consciousness broke upon me that I had not a clean shirt wherein to make my appearance at muster. Frequently the loan of three, or even four coloured shirts was offered for the temporary loan of one white one: and still more frequently the contents of the dirty clothes-bag were examined, and the cleanest of the dirty ones selected for use. Etiquette forbade the use of coloured shirts at the cuddy table. We were not so awkwardly circumstanced with regard to trousers, for those which were made of canvas or duck could be rendered beautifully white by merely being washed in salt water; while the blue-cloth garments, if greasy and tarry, were restored to their original gloss by immersion in pea-soup—a plan which, incredulous as I was at first as to its merits, I am now convinced is a very excellent one.

At half-past seven Bombay Lighthouse reported to be in sight from the mast-head, and soon after it was visible from the deck. Fired guns and burned blue lights. Stood in for the land. At half past nine passed the Fairway Buoy, and anchored in eight fathoms, with best bower, and furled sails. During the night a pilot came on board, and at daylight we hove up the anchor, stood in for our final lying-ground, and having there moored ship, at once commenced landing the passengers and their baggage. From the time we began heaving up until the final mooring of the ship, the young gentlemen were employed upon the gun-deck as messenger-men; which employment consists in 'lightening along,' or lifting a heavy hawser called a 'messenger,' which is the purchase used for weighing the anchor by the captain, and which, in the present instance, was covered with a thick coat of very greasy clay, bespattering and bedaubing us until we bore a strong resemblance to Thames mud-larks. Of course under these circumstances no leisure was allowed for looking at the scene around us, therefore my first impressions of Bombay Harbour were not at all agreeable.

My duties upon the gun-deck being at length brought to a conclusion, I hastened to the upper deck, and there for the first time the beautiful harbour of Bombay, almost landlocked by fertile islands, presented itself to my admiring gaze, bright and joyous in the rays of the morning sun,

under a perfectly cloudless sky of intensest blue. Hundreds of stately ships, many of them the finest merchantmen in the world, were at anchor around us; and our own good ship, with all her yards exactly squared by lifts and braces, masts well stayed, and every rope hauled as tight as a harp-string, floated as proudly as any. Then there was the town, divided into the White and Black Towns: the former consisting chiefly of two-storeyed houses, with well chunammed green verandas, and roofs covered with pantiles; laying no claim certainly to architectural beauty, but still appearing suitable to the climate. The basement storey is arched, and appropriated to merchandise, the dwelling-rooms being all on the first floor. The Black Town is composed entirely of huts, embosomed in cocoa-nut, banana, and other trees, which cause it to look very picturesque at a distance; but it is found to be squalid and filthy on a nearer approach.

Whilst I was gazing in mute admiration at the beautiful landscape, a group of the oldsters, who were gathered together on the poop with a telescope, which passed rapidly from hand to hand, were discussing in purely nautical language the merits of the vessels within sight, finding fault with some, and praising others, with so solemn an air as they turned their quids in their mouths, that even I, young and green as I was, could not refrain from laughing in my sleeve at their assumption of knowledge: unfortunately they never agreed in their opinions, and great was the wrangling in consequence. 'Yon bark has made a snug stow of her sails,' said one. 'Do you call that a snug stow?—that shows what you know about it! Why, an old collier would furl her sails better than that!' 'Yonder is the *Berksh*; I know her by the cut of her galls.' 'No, it isn't: I'll bet any money that it is the *Clarence*. But see what an awful steene she has in her bowsprit, and how badly her yards are squared—what can the lubbers be thinking of?' And so on; but I have omitted the oaths with which these oracular responses were rounded. Then followed an argument as to whether Yankee or Scotch vessels were in the habit of carrying the longest poles in harbour; an argument which was carried on with so much heat, that two of the young gentlemen nearly came to blows. If my opinion were now asked upon this highly-important subject, I should say that the practice was most in vogue among the Yankees, they being notorious for aspiring to pierce the clouds with their moonsail poles, but in one particular instance I saw a ship from Glasgow which aspired higher still, the altitude of whose fine-weather sticks was absolutely marvellous. My respect for the opinions of the second-voyagers had gradually diminished; for although I had at first looked upon them with a species of awe, as persons who had seen great wonders and undergone many hardships—a feeling which they seemed anxious to keep alive by their marvellous stories—as I grew older and wiser I began to suspect that half their adventures were fictitious—mere children of the imagination.

The *Weatherly* was soon surrounded by *dingees* (the native boats); and the decks became crowded with *doby wallahs*, or washermen, soliciting the favour of our patronage, and bringing forth the thumb-worn certificates which they had obtained from former employers. Upon reading some of these I found that they were far from complimentary; indeed some certified that the bearer was the greatest rogue under the sun, and contained a friendly

warning not to have any dealings with him. One of these doby wallahs insisted on his right to have my washing, having, as he said, washed for me last voyage; the rogue even congratulated me upon my improved appearance since he saw me last! Then came a host of shoemakers, tailors, and barbers; the services of the latter were soon put in requisition, and I well remember having my smooth face shaved all over, merely because of the novelty of being scraped by a native artist; my hair certainly required a little arrangement, for the last person who cut it was the ship's cooper, who did not trim it exactly in the newest London fashion. But the most welcome of our visitors was old Abraham, the bum-boatman, who, with his son Isaac, were engaged to attend the ship, as they had done for many voyages past, while she should remain in port. I cannot describe the eagerness with which we pounced upon his soft *tack* (bread), milk, butter, eggs, and fruit, or with what delight we quaffed his foaming toddy. A four months' passage really makes one truly appreciate the good things of this earth: we had had little else but maggoty biscuit, rancid salt-meat, musty suet, and putrid water, since we left Gravesend; and now we saw spread before us a profusion of white bread, eggs, and milk, besides bananas, mangoes, water-melons, and other luscious products of the glowing East.

In consequence of having sailed in the same ship with Lascars, I was not so much struck with the dress and language of the natives as I should otherwise have been; and yet there was much that was novel and interesting for my senses to dwell upon. The grotesque build of the native craft, the numbers of Turkey buzzards which hovered among the shipping, the voices of the fishermen in their frail canoes, clustering under the bows crying *mutchee* (fish) in a prolonged and plaintive tone, the tall cocoa-nut trees among the houses on shore, the very odour of the smoke produced by burning teak or cocoa wood—all were different from anything I had before experienced. We now set to work in good earnest discharging our cargo, the most disagreeable portion of which was the bar-iron. It was the duty of the young gentlemen to remain in the hold, and keep a correct tally, or account, of each bar as it was passed up; and in the same way with the shot and shell—a most tedious and unintellectual avocation, during which we were exposed to the full annoyance of the dense clouds of rust. Our work always commenced at daylight, and sometimes, but not invariably, ceased at sunset. But we were not now exposed to the horrors of hopeless thirst: water was plentiful, so that those employed in the hold always had a bucketful mixed with lime-juice and sugar—a most refreshing beverage, but one which must be used with caution in a climate where the slightest excess of this nature will induce dysentery. The water, which was supplied to us from the shore, was decidedly unwholesome when used alone; and in consequence of this being the latter end of the dry monsoon, when the tanks are nearly dried up, it was thick and muddy, of a deep yellow colour, and had a most unpleasant earthy taste: in short, it was nothing else than puddle water. From this cause, and perhaps from too free an indulgence in fruit, especially pine-apples, which are always dangerous, two of my messmates had very severe attacks of dysentery, while I myself did not wholly escape. The life of one of the patients was at one time despaired

of; and he scarcely recovered from the effect of his illness during the whole of the return voyage.

I will now try and give some idea of the great irksomeness of harbour work, which was so disagreeable as to cause us to rejoice when we saw Blue Peter flying at the fore, and heard the orders given to weigh the anchor, make sail, and stand out for sea. But before this consummation we had much to endure. I may as well mention here, among other harbour nuisances, the swarms of mosquitoes which buzz around one's hammock, almost preventing sleep, and nearly blinding him with their venomous bites: they used to punish me most cruelly. They are formed like an English gnat, but are only half the size; the body is variegated, black and white; the sting produces violent itching and inflammation; if the wound is rubbed, and the skin broken, it immediately festers, and spreads rapidly, as I found from sad experience in a subsequent voyage.

23d.—Busily employed in discharging cargo. Received the first boat-load of cotton, and commenced stowing. As, with the exception of Sundays, I was in the hold every day from this time to the day when the ship left Bombay—namely, June 5 (about six weeks)—I will at once give a sketch of a midshipman's life in harbour:—

At five o'clock in the morning the hands were turned out, and each person had a quart of rice gruel, flavoured with sugar, and a gill of rum or arrack, which is recommended by the doctors as a very excellent mixture to prevent dysentery in a hot climate; it is very palatable; and from what I have myself experienced, and what I have observed in others, I should certainly pronounce it to be highly beneficial. At six o'clock lanterns are brought forward, candles lighted, and stowing cotton begins. The sole duty of the midshipman is to look after the lights, to keep them trimmed, and to see that they are not put in dangerous situations. There are three gangs of stowers, under the superintendence of the second, third, and fourth officers—these are the European ship's company: the chief mate overlooks and directs the whole. Besides the Europeans, there are several gangs of hired Seedys—a very powerful race of men, I believe from Madagascar or the adjoining mainland, who are under the guidance of a superintendent of their own nation. These men work well; and it is astonishing to see with what ease they throw about the closely-compressed and heavy bales of cotton, and work the massive screws which are made use of in stowing. Every bale is driven so close to its neighbour that sixpence could not be insinuated between them. The Seedys never work without a great deal of noise, which, having some resemblance to a tune, and being furnished with a chorus, must, I suppose, be dignified with the name of singing. When well treated—that is to say, treated like men—they will work cheerfully; but if an attempt is made to impose extra hours upon them without equivalent pay, they manifest a great deal of independence. The heat down in the hold while cotton-stowing is intense; but apparently not injurious to health, if a person upon coming up does not expose himself suddenly to the cooler air while the perspiration is upon him. Flannels are universally worn, and prove a great safeguard against too rapid evaporation. We only came up to our meals, and then down we plunged into the hold again; and often did not cease stowing until eight or nine at night; but six was the proper hour for 'knocking off.' The reader will no

doubt agree with me that this was but a poor six weeks' amusement for a youngster. One day the men on the upper deck commenced hurling the bales down into the hold without giving any previous notice to stand from under, and I, happening to be just then passing under the hatchway, escaped by a miracle: the ropes with which the bale was secured had grazed my shoulders slightly, but no other injury was done save my being stunned for a few moments by the suddenness of the concussion. The Seedys raised a yell, to warn those on deck to avast heaving, and removed me from the place of danger, evincing the greatest solicitude for my safety; nor would they believe that I was unhurt until they saw me walking about again as usual. Poor fellows! they, too, had kind and feeling hearts, uncouth, uncivilised niggers as they were termed.

May 21st still found us fully employed in stowing cotton; but we had by this time brought our cargo within a short space of the hatchways, which was very fortunate, as the weather now became oppressively hot, as is always the case at this time of the year. Heavy stormy appearances were observed daily, with light, variable winds, and sometimes rain, thunder, and lightning.

June 5th.—Left Bombay for England, with light westerly breezes, and fine weather, but a heavy swell from the south-west, which proved that it had been blowing hard from that quarter, and showed us but too plainly what we might reasonably expect when we got outside. It is perhaps needless to remark here, that June is the month in which the change of the monsoons, or periodical winds, takes place from north-east to south-west upon this coast, and that they invariably blow with terrific violence at their first setting-in, as well as at their termination.

6th.—Moderate breezes at noon, with heavy masses of black clouds, and, constant thunder. Towards evening, variable winds, with strong puffs, and much rain. I noticed on this day that although we were several miles from the land, the ship was swarming with butterflies and sphinges, which seemed to have taken shelter from the hurricane which their instinct taught them was brewing.

7th.—Forenoon, light breeze and rain. Afternoon, breeze increasing rapidly, with very severe squalls, until it blew a heavy gale, with still stronger squalls, and a tremendously high sea running.

8th.—The sea had now risen to a fearful height; the squalls were so heavy, as to threaten us not only with the loss of our sails, but of our spars also. We were, in fact, in a very awkward predicament, being on a lee-shore, and unable to show any canvas to the gale, on account of the crankness of our vessel. At three A.M. the horizon to windward looked blacker than ever, and I, being on watch at the time with the third mate, ignorant as I was of tropical phenomena, thought that there was mischief coming; and scarcely had this thought passed through my mind, when a blast of wind struck the ship, so as to lay her very nearly on her beam-ends, and she was yet heeling over still more, insomuch that she would inevitably have 'turned turtle,' as sailors say, had not the mainsail fortunately split, with a roar like thunder. You can form no idea of the uproar which was caused by the huge fragments of heavy canvas flapping in the gale: it was harsh, strange, and deafening. The blast passed

over, but the gale itself freshened. The hands were turned out, the remaining shreds of the mainsail secured, the topsails treble reefed, and the foresail hauled close up. At four A.M., finding the squalls increase in severity, and that the ship was drifting "bodily, at a rapid rate, towards the land, moreover lying nearly on her beam-ends under snug canvas, we sent down the top-gallant-yards and masts, scuttled all the water-butts which were stowed in the waist on the upper deck; and at six A.M., finding the ship still drifting very fast towards the shore, the captain held a consultation with the chief and second officer and carpenter, and after due consideration of the danger of the ship's position, being then within a few miles of an iron-bound coast, where, in the event of striking, destruction would have been inevitable, and also considering the threatening aspect of the weather, it was determined to throw overboard part of the gun-deck cargo. This was accordingly done without delay, to the extent of upwards of one hundred bales of cotton and wool, in addition to which, one of the quarter-deck carronades was launched out at the gangway. At ten A.M. another mainsail was with difficulty bent; the treble-reefed topsails, which had been lowered to the cap, were hoisted; and at noon we ventured to set the foresail and reefed mainsail. At the time of throwing the cotton overboard, the sea was running what the song-books call mountains high—which, by the by, is not an inappropriate, though hackneyed simile. The cold rain drenched us to the skin, and five planks of the upper deck were under water, so much was the vessel heeled over. Solid green seas kept bursting over us, in such ponderous masses, that the poor half-drowned doctor (the usual name for the cook) could not get his fire to burn in the caboose, so that we were forced to make a meal off raw pork and biscuit, which, however, was not so very unpalatable when washed down with a goodly dram of arrack.

I will leave the reader to imagine how glad we were to see the black rocky coast gradually growing more and more indistinct. If the gale had not slightly moderated towards the afternoon, as I have mentioned, I should not now in all probability be living to tell the tale. Our mess-room needed but this adventure to put the finishing stroke to its wretchedness and discomfort. The plate-racks had come down, nearly all the crockery and glass were demolished, our chests were adrift (nine especially, in which a bottle of mango chutnee was smashed, and the contents soaked into my stock of clean white shirts), the legs of the table broken, our oil-can had sprung a leak, and the lamp-oil was dripping into our jar of moist sugar; and for the remainder of the voyage we were glad to drink our tea out of tin pots called pannikins, and eat our dinners off pewter—no great hardship certainly, but a much humbler way of dining than we were accustomed to at the commencement of the voyage.

9th.—Although, fortunately, the gale moderated sufficiently to allow of our gaining a secure offing, it soon renewed its bitterest fury; but all apprehensions for our safety were now over; we had a fine ship, as tight as ever floated, a good crew, and smart officers, so that with good sea-room we knew we could weather many a hard gale yet.

The gale had been increasing towards midnight of the 8th, and on the morning of the 9th we were forced to heave to under small canvas. At half-past ten it blew with tenfold fury, or, as Jack says, 'there was a fresh

hand at the bellows.' The squalls were even more violent than on that fearful night when we lost our new mainsail; we therefore shortened sail yet more.

13th.—Frequent light squalls, accompanied with rain. At night two whirlwinds were seen, which, from their phosphorescence, appeared like immense revolving globes of fire.

14th.—While washing decks in the morning watch, I saw a tremendous fish under the quarter, with two heads on its shoulders: it was broad and flat like a skate, and might have been ten feet long by eight feet broad. It was a hideous-looking creature: I was told that the common name for it was the Devil-Fish.

We now learned that we were bound to the Isle of France (the Mauritius) for water; for, as I have before had occasion to state, we were obliged to scuttle all the water-bulks which were stowed on the upper deck, in order to ease the ship of her top weight.

18th.—Crossed the line during the night. From this day until the 30th not a day or night passed without squalls and heavy chilly rain, so that dry clothes were absolutely at a premium.

July 1st.—A pleasant day. The trade, and fine clear weather.

2d.—The island of Roderigo was seen from the masthead; but from the prevalence of light winds and calms, we did not get to the Isle of France before Tuesday, July 6. At eleven A.M. on that day we anchored a cable's length outside of the Bell Buoy. I had no opportunity of going on shore here, but I was very much struck with the beauty of the island as seen from the roads: it appeared to be a succession of mountains and ravines, interspersed with fine patches of table-land, which were highly cultivated, the light-green yellow of the sugar pieces and the dark hue of the coffee ridges presenting to the eye a pleasing diversity of colour.

7th.—Crew employed hoisting in water.

8th.—Blowing fresh; anchor dragged; veered out chain to one hundred and ten fathoms. Very severe gusts off the land. A lady and gentleman left the vessel to remain in the island; and this reminds me that I have entirely forgotten to take notice of our homeward-bound passengers. These, with the exception of the pair now mentioned, consisted of a veteran sun-browned major, his young wife, and two lovely flaxen-haired boys; the widow of a captain, with her little girl; and several natives in the service of these parties. There was thus in our case, as in all others, comparatively few returning from a land which, while the field of easy fortune to some, becomes the grave to thousands of the brave and beautiful of our countrymen and countrywomen.

At nine A.M. weighed and loosed sails. The anchorage at the Isle of France is one of the worst known, as a proof of which, I may mention that when we got our anchor to the bows, we found that both flukes were gone. These latitudes are all liable to terrific hurricanes in the months of March, April, and May.

From the Mauritius to the Cape of Good Hope we had a strange medley of fine and bad weather, light winds and fair, followed by squalls, thunder, lightning, and rain. The young gentlemen were constantly exercised in sending up and down yards and masts.

28th and 29th.—We experienced an entire calm. We were then off

Cape Francois, on the Aiguilhas or L'Aguilhas bank. A scene now commenced which, I fear, will prove too much for my powers of description. Fish of all sizes were caught with hooks by hundreds; anybody who could procure a few fathoms of twine and a rusty old fish-hook, baited with the smallest possible morsel of pork, was certain of a bite. I caught twenty or thirty with very inferior tackle, whilst those who were better provided pulled them in as fast as they could drop their baits into the water. It was the most amusing sight I ever witnessed, and seemed to partake of the character of a fantastic dream. Every soul in the ship was a fisherman that day, from the captain seated on the taffrail, with his beautiful line and polished hooks, to the little apprentice at the jib-boom end, with his tangled twine (stolen from the sailmaker) and crooked pin. I did not know the names of any of the fish, but the sailors, as usual, found names for them all. There were some which, from their scaliness and peculiarity of form, were called Cape salmon, but in flavour they differed entirely from our fish of that name; others, with enormous heads and wide mouths, were called Cape cod; these were obtained of great size; one of the largest weighed sixty-four pounds. There were many other smaller species: all, without exception, proved to be excellent eating. Having now a great deal more fish than we could eat whilst fresh, we cut them open, and sprinkling them with pepper and salt, hung them up in the air to dry. Our mess-boy had his hands full enough of work.

A breeze springing up, we saw Table Mountain on Friday, July 30th; and after much baffling with light breezes, about the 7th of August we fell in with a tolerably steady south-easterly wind, which is in those parts called the trade-wind. The south-east trade is said by the old sailors never to have been so steady since the East India Company resigned their charter as a commercial body. We found it blew true enough to one point; the sea was smooth, the sky cloudless, and the moonlight nights were absolutely enchanting; the stars were numerous and brilliant, and the air bewitchingly soft and balmy. The sails being once set, and the yards laid square, we had nothing to do but make all the ropes fast, and go to sleep in the night, whilst during the day we painted and beautified the ship both internally and externally; indeed we required a little rest after the months of rude buffetting among gales and squalls which we had lately experienced.

Sleeping upon deck is called, I know not why, 'calking;' and there is no doubt that the midshipmen are more practised 'calkers' than any others on board. During the trades, the youngest midshipman regularly came on deck to keep his night-watch, staggering under the weight of his 'calking-irons'—by which the reader is to understand that he brought up five greatcoats, whether his own or his messmates he was not very particular about. I never knew such a boy for sleep, nor one who did it so systematically: he had one coat on his back, another for a pillow; one to lay under him, and two to lay over him; and thus furnished, he slept for two hours as comfortably as if swinging in his hammock. When there were two midshipmen in a watch, they agreed to divide the four hours between them, each taking two hours' sleep, and two hours to keep awake and strike the bells. The officers of the respective watches, knowing that young people require rest, good-naturedly acquiesced in or rather winked at this pleasant

arrangement, which, if it had been faithfully carried out, would have succeeded admirably, and given satisfaction to all parties; but unfortunately nine times out of ten the lazy young vagabond, who ought to have been on the alert, was found in a deep slumber by the side of his watchmate whose turn it was to sleep. The call for 'young gentlemen' was unanswered, and then the incensed officers insisted upon both walking the deck for the whole of the four hours—the most dreadful punishment that could well be invented for these sleepy-headed youngsters. I have myself fallen fast asleep whilst sitting on a bucketful of water before commencing to wash decks, and been rudely aroused by the capsizing of the bucket caused by the ship's motion, and found myself sprawling in a pool of water; and yet I was always considered to be the most wakeful in the mess.

We passed several ships whilst running up the trades, and exchanged numbers occasionally.

On the morning of *Sunday, August 15*, at 7.40 A.M., saw the island of St Helena rising like a huge precipitous rock from the ocean. The duty of the ship—that is, preparing to come to an anchor—prevented the performance of divine service. At 11.30 anchored in James Town Roads in nineteen fathoms with sheet-anchor. We found lying here the most beautiful model of a vessel that can be imagined; she was a long, low, clipper-built craft, one of the slavers captured by our indefatigable though useless cruisers. Captain Courtly and others went on board, and they said she was quite a picture—all her belaying pins of highly-polished brass, ring-bolts grafted over with the greatest neatness, mahogany fife-rails, &c.; and the chief cabin was furnished in a style of positive luxury. The slaves, with which the vessel was found to be crammed when taken, were still detained on board, on account of their having some contagious disease, of which they were daily perishing by scores, and which rendered it imprudent to land them. During our short stay we procured several sacks of water-cresses, which, after our long-continued salt fare, were an inestimable luxury; knowing how wholesome they were under our peculiar circumstances, we devoured them in enormous quantities medicinally.

James Town has a pretty appearance from the anchorage, lying as it does embowered in trees in a sort of valley or large ravine, with the high and barren rocks rising around it, the summits of which are strongly fortified and bristling with cannon, some of which are placed in such positions as to make the gazer wonder how they could have been got there. We could see a clump of dark trees on an eminence behind the town, rather to the left, which we were told was the estate of Longwood, of Napoleon celebrity. The island to seaward generally presents to the view a perpendicular wall of gloomy rock of immense height.

August 16.—At four P.M. we left St Helena, and made all sail with a good trade-wind for England.

October 5th.—At 11.30 P.M. saw the Start Light, and on Wednesday, the 6th, passed the Isle of Wight.

7th.—Took a pilot on board. Passed Dover.

9th.—In the river. It being a drizzly, disagreeable morning, Mr Smart determined upon giving the young gentlemen a final benefit. He ordered them all to come on deck and wash the poop; but some of us having only come off watch at four o'clock, others having no inclination to

get a wet jacket, and all feeling a spirit of independence now they were in England, we flatly refused to obey his summons: long did he bellow down the main hatchway in furious tones, and long did we sit and mock at his fruitless rage. But fear of the consequences at length made us creep up one by one, and then we were called up for punishment. Every one of the mutineers was mast-headed. I was sent to the mizen-topmast-head, and ordered to scrape sundry spots of grease and tar from off the paintwork of the cap and masthead. I remained there four hours, and as the job which I had to do was merely nominal, I passed that time most delightfully in watching the manœuvres of the hundreds of vessels which constantly crossed the river. It was amusing, from my elevated position, to watch the swift little steamboats dexterously threading their way amongst the groups of dingy-looking coal brigs, and to see our men at work washing the decks, looking like so many pigmy automata. This was the first mast-heading I ever had for punishment, and the last also: as it was not for a very heinous offence, I am not ashamed of giving it a place in this faithful narrative. At eight o'clock we were all ordered to come down. We ate our breakfast with a keen appetite, as was proved by the rapid disappearance of several quartern loaves, with butter to match, which we had purchased alongside.

10*th*.—Passed Gravesend during the night, in tow of two steam-tugs, and brought up off Purfleet.

12*th*.—Arrived in Blackwall import-docks—was dismissed—took a long, last, lingering look, with a somewhat moistened eye, at the gallant old craft which so well had done her part, and went up by the Blackwall railway to London.

THE LAW OF STORMS.

AT one time it was a just reproach, not only to ourselves, but to our continental brethren, that the laws which regulate the succession of atmospheric phenomena were very imperfectly known. A want of precise observation, imperfect instruments, and limited data, led to crude theories; and till the closing years of the last century, meteorology could not be said to rank among the sciences. The transition period is of very recent date, and were it not foreign to our present purpose, its development might become an interesting inquiry. In the seventeenth century we would find the master minds of Boyle, Torricelli, and Pascal, opening the portals of the temple. In the eighteenth a goodly phalanx, small in numbers, but renowned in strength, enters the shrine, overturning ancient speculations, and placing pneumatic chemistry upon a sure foundation. About the same time we find the acute astronomer, Halley, watching the return of that most gorgeous meteor by which the illustrious Gassendi transmitted to posterity a name, and accurately describing its fantastic appearance in the polar sky. A few years thereafter another branch is made the subject of special study, and Franklin clothes its truths in language modest and perspicuous. Dalton, with his unwearied observations, profound reasonings, and deep sagacity, links the past with the present century; Wells comes next, following in the footsteps of the immortal Bacon, and giving to us and to future generations investigations beautiful for their simplicity and inductive reasoning. Not to mention others over whose loss we mourn, nor the living—not to gather up a host of continental savants, whose very names are precious—not to dwell upon the past, but to look forward with aspirations to the future—not to seek an exposition of a science so extensive, nor to ramble over a field so wide, but to confine our attention to a special department of meteorology—let us approach the subject of the law of storms.

Though 'the wind bloweth where it listeth,' it nevertheless follows, with singular regularity, a prescribed course. Towards the equator, and for some degrees on either side, the wind is constant—that is, always blowing in the same direction—between the western shores of Africa and the eastern coast of America. In the Pacific Ocean, however, it does not blow without a rival, though we find the same eastern wind blowing from Panama to the Philippines and Australia, and from Sumatra to the eastern

shores of that continent whence we started. In this wide expanse of waters the periodical monsoons are found.

These constant winds, from the facilities which they afford to commerce, have been denominated *trade-winds*; and their steady, gentle zephyrs are delightful. By the mariner who spreads all his canvas, and by the invalid who seeks a more genial clime, these breezes are equally sought for. Far different in character, however, are the Indian *monsoons*. Signalled in the sky by portentous clouds, they make their advent in the awful grandeur of a tropical thunderstorm. The wind blows in gusts, the lightning flashes incessantly, the thunder roars with a sound which cannot be expressed in any language, and rain falls in torrents. The face of nature is entirely changed: but when the swollen streams have subsided, the sky cleared, and the wind steadily set in, there is a delightful freshness around, and luxuriant vegetation covers the ground. The period of the monsoons draws to a close, and retires as it came, amid another display of stormy gusts, rains, and lightnings.

That these constant and periodical winds follow a fixed law, is clearly shown by their regularity. What that law is, we will briefly endeavour to explain. The trade-winds owe their constancy to the united action of the solar rays and the earth's rotation, as has been pointed out by Hadley. The heat imparted by the vertical beams of a tropical sun causes a constantly-ascending aerial current, and this leads to a continued flow of colder particles from the temperate regions to supply their place. But the increased velocity of the surface of the earth towards the equator is ill adapted to these molecules acquiring a corresponding speed: they are unable, in fact, to gain this increased celerity, and in obedience to mechanical principles they assume a westerly motion. The north-east monsoon is similarly explicable, but the south-west monsoon arises from the want of balance produced from the rarefaction of the air over the Asiatic continent when the sun is in northern declination.

Beyond the region of these winds, those which have been termed *variable* or *erratic* are met with; and though their veerings seem capricious, doubtless they, too, follow certain laws. Of these unsteady winds the south-west and the north-east prevail during the greater portion of the year, and by their conflict Professor Dove of Berlin has explained the production of the others. The ascending current produced by the trade-winds diverges at a certain height to either pole, that in the northern hemisphere taking a westerly direction, and, about the 30th parallel of latitude, sinking lower in the atmosphere, giving rise to our south-west winds. The north-east wind, which is frequent in April and May, arises from the flow of particles southward to replace the heated air over the Atlantic, caused by the approach of the sun to the summer solstice.

When these variable winds veer round the compass, it has been remarked by Dove that they usually follow a certain course—namely, from E. to W. by S. in the northern hemisphere, and from E. to W. by N. in the southern hemisphere. This is his law of rotation (*Gesetz der Drehung*), to which, however, there are exceptions. Hence it follows that in northern latitudes the warm wind is generally followed by a colder one on the western side of the compass, and the reverse on the opposite side; and, as a farther consequence, that the thermometer falls while the

barometer rises, and *vice versâ*, during the veerings of the wind round the wind-rose.

Though these are the winds which characterise the regions of our globe, there are others which occasionally blow in certain parallels. To these it is our intention to draw particular attention—we refer specially to the *hurricane* and *typhoon*. In many respects they are similar, but the geographical boundaries of the typhoon are more limited than those of the hurricane. Both are revolving, progressive, and impetuous tempests; but the typhoon is met with only in the Chinese seas between lat. 10° and 30° N., and from the coast of China to long. 150° E.

Like 'coming events' which 'cast their shadows before,' these awful storms are indicated by signs of strange and unwelcome appearance. The air is sultry, and in the lower regions deceptively calm, while in the horizon a bank of vapour is seen rising.

——— 'Deep in a cloudy speck
Compressed, the mighty tempest brooding dwells.'

Above, the clouds scud on; perchance a singularly-luminous spot appears in the zenith—the storm's eye, or *el ojo* of the Spaniard; and if at sea, there is a preternatural aspect in the horizon, as if a dark and lofty wall encompassed the observer, and that not far off; there is a universal gloom, in which the whole of nature participates, and from which the animal creation shrinks. Now a deep sound is heard, and the voice of the gale exceeds that of the thunder; lightnings flash; the wind strengthens till few can withstand its horizontal force; rain falls in torrents, and at sea it is mingled with spray. The noble ship heaves upon the billows, lying-to or scudding before the storm, and becoming unmanageable; the sea is agitated peculiarly, like a boiling caldron, rising and falling without an onward motion. On land the strongest trees are prostrated, and the works of human art totter and fall. Meanwhile the barometer has been rapidly falling; but when the centre of the gale has passed, the mercury remounts the tube. The wind veers round the compass, and lulls itself to rest. But the duties of the wearied mariner are not over; the ship still labours in a heavy sea, and strains from the violence of the rolling; some repair the rigging, others the tattered sails, while the carpenter perchance works upon a broken rudder, or fits a jury-mast. 'They that go down to the sea in ships, that do business in great waters—these see the works of Jehovah, and his wonders in the deep.'

At the beginning of the present century, attention was drawn by Colonel Capper* to the gyratory phenomena of the hurricane, and about the same time Dove† was studying the law of rotation of variable winds in temperate climates. The interesting investigations of our countryman do not seem to have impressed the minds of those who were in a position to pursue the inquiry. At length, after an interval of several years, the subject was taken up by Mr Redfield,‡ in America, and has been carried down to the present

* Observations on Winds and Monsoons, Illustrated with Chart. 4to. London: 1801.

† Poggenorff's Annalen der Physik, &c.

‡ Silliman's American Journal of Science—*passim*.

time with praiseworthy zeal and great ability. The rotative character and progressive motion of several Atlantic storms led him to the happy generalisation, *that these tempests are whirlstorms blowing in a determinate direction, and advancing along a curved axis from the equator to the pole.* While Mr Redfield was thus pursuing this interesting investigation, our countryman, Lieutenant-Colonel Reid, was similarly occupied. A destructive hurricane which traversed the western Atlantic in 1831 led him to direct his attention to these awful visitations, and since then he has been accumulating facts in support of theory. Before noticing, however, the excellent treatise which Colonel Reid has recently published, let us glance at the labours of his predecessor and coadjutor:—

A West Indian hurricane which blew at St Thomas on the 12th of August 1830, at midnight, and after sweeping along the coast of Florida died away to the south of Newfoundland, afforded Mr Redfield interesting materials for a valuable memoir, 'On the Prevailing Storms of the Atlantic Coast of the North American States.' This hurricane, and one which followed it on the 22d, were very remarkable tempests. The former blew to the north-west of San Domingo on the 13th, reached the Bahamas on the following day, and the coast of Florida on the 15th. There its track made a sharp turn, and assuming a north-easterly direction, the hurricane passed Charleston in South Carolina, and blew to the south of New York on the 17th. With accelerated speed it reached Nova Scotia upon the 18th, and was south of St Pierre on the following day. With a projection before us, we have measured its path over a space of 3000 miles. Along this track it moved at the rate of about 500 miles per diem, enduring violently for twelve hours, and in a milder degree for a longer period, at the different places over which it passed. The hurricane of the 22d moved within the track of the one just described. It appeared to the north of Turk's Island, and passed north-east of the great Bahama bank on the 23d, between which day and the 24th it curved in a north-easterly direction, and on the 26th it blew south of Halifax, and east of New York.

In the same month of the following year another hurricane, more awful in its devastations than either of those mentioned, blew in the same sea—furnishing Mr Redfield with elements for a second memoir and chart. This hurricane, which began in the Barbadoes on the 10th, transforming that island into a desert, passed to America, destroying property valued at half a million, and causing the death of 5000 individuals. In the Barbadoes no fewer than 1477 persons perished within seven hours! It advanced to St Vincent at the rate of ten nautical miles per hour, preceded by a cloud in the north of singularly threatening aspect and olive green colour. At that island serious injuries were sustained, and many trees at the northern extremity of an extensive forest were *killed*, apparently by electricity, without being blown down. It crossed over Cuba on the 14th, and reached New Orleans on the 16th, having moved over 2300 miles, at the rate of 383 miles daily.

So graphic is the description of this remarkable tempest from a Bridgetown paper, that we do not hesitate to place it before our readers.* At

* Colonel Reid—Attempt to Develop the Law of Storms, 1838.

the Barbadoes, 'after midnight the continued flashing of the lightning was awfully grand, and a gale blew fiercely from the north and north-east; but at one A.M. on the 11th of August, the tempestuous rage of the wind increased; the storm, which at one time blew from the north-east, suddenly shifted from that quarter, and burst from the north-west and intermediate points. The upper regions were from this time illuminated by incessant lightning, but the quivering sheet of blaze was surpassed in brilliancy by the darts of the electric fire which were exploded in every direction. A little after two, the astounding roar of the hurricane which rushed from the north-west cannot be described by language. About three, the wind occasionally abated, but intervening gusts proceeded from the south-west, the west, and west-north-west, with accumulated fury.

'The lightning also having ceased for a few moments only at a time, the blackness in which the town was enveloped was inexpressibly awful. Fiery meteors were presently seen falling from the heavens—one in particular, of a globular form, and a deep-red hue, was observed by the writer to descend perpendicularly from a vast height. It evidently fell by its specific gravity, and was not shot or propelled by any extraneous force. On approaching the earth with accelerated motion, it assumed a dazzling whiteness and an elongated form, and dashing to the ground, it splashed around in the same manner as melted metal would have done, and was instantly extinct. A few minutes after the appearance of this phenomenon, the deafening noise of the wind sank to a distant roar, and the lightning, which from midnight had flashed and darted forkedly with few and but momentary intermissions, now, for a space of nearly half a minute, played frightfully between the clouds and the earth. The vast body of vapour appeared to touch the houses, and issued downwards flaming blazes, which were nimbly returned from the earth upward.

'The moment after this singular alternation of lightning, the hurricane again burst from the western points with violence prodigious beyond description, hurling before it thousands of missiles, the fragments of every unsheltered structure of human art. The strongest houses were caused to vibrate to their foundations, and the surface of the very earth trembled as the destroyer raged over it. No thunder was at any time distinctly heard. The horrible roar and yelling of the wind; the noise of the ocean, whose frightful waves threatened the town with the destruction of all that the other elements might spare; the clattering of tiles; the falling of roofs and walls; and the combination of a thousand other sounds, formed a hideous and appalling din. No adequate idea of the sensations which then distracted and confounded the faculties can properly be conveyed to those who were distant from the scene of terror.

'After five o'clock the storm, now and then for a few moments abating, made clearly audible the falling of tiles and building materials which by the last gust had probably been carried to a lofty height. As soon as dawn rendered outward objects visible, the writer proceeded to the wharf. The rain was driven with such force as to injure the skin. The prospect was majestic beyond description. The gigantic waves rolling onwards seemed as if they would defy all obstruction; yet as they broke over, the careenage they seemed to be lost, the surface of it being entirely covered with floating wrecks of every description. It was an undulating body of lumber—

shingles, staves, barrels, trusses of hay, and every kind of merchandise of a buoyant nature. Two vessels only were afloat within the pier, but numbers could be seen which had been capsized, or thrown on their beam-ends in shallow water. On reaching the summit of the cathedral tower, a grand but distressing picture of ruin presented itself around. The whole face of the country was laid waste—no signs of vegetation were apparent except here and there small patches of a sickly green. The surface of the ground appeared as if fire had run through the land, scorching and burning up the productions of the earth. The few remaining trees, stripped of the boughs and foliage, wore a cold and wintry aspect, and the numerous seats in the environs of Bridgetown, formerly concealed amid thick groves, were now exposed and in ruins.*

Returning to the labours of Mr Redfield, we now find him deducing from a number of observations the grand phenomena of these rotary winds, and establishing the principal directions of the hurricane.† In another paper† he furnishes practical rules to the seaman, notices the peculiarity of rotation and progression in the southern hemisphere, and gives projections of several tempests anterior to 1836.

We now arrive at the time when Colonel Reid published his first work on the 'Law of Storms,' but upon it we will not dwell. We may venture, however, to sketch an outline of the volume. After some preliminary matter he describes in his fifth chapter three hurricanes of 1837, and gives charts of their course. The first of these is the Barbadoes storm of July 26th, which blew in the Gulf of Florida on the 30th, and assuming a north-easterly direction, passed over the eastern coast of the United States; the second is the Antigua tempest of the 31st of the same month; and the third, that of the 12th of August. In the sixth and seventh chapters he describes the storms of southern latitudes, and the Chinese typhoons. In the eighth he gives an interesting account of the rotary gale of the 3d of October 1780, and of 'the great hurricane' of the 10th of the same month. The former of these crossed Jamaica and Cuba, and died away to the south of Newfoundland. The other began upon the night of the 10th at the Barbadoes, where it raged with exceeding fury. It is calculated that upwards of 4000 persons perished by this storm, and that property worth considerably above a million was destroyed. Three British ships of war, having a complement of 376 guns, were wrecked. Leaving the Barbadoes, this hurricane chiefly affected St Lucia, St Vincent, and Martinique; while Antigua on the north, and Grenada on the south of its track, felt it but slightly. Having passed over Haiti, the storm became northerly at Turk's Island, and bent to the north-east, blowing somewhat out of the ordinary region of West Indian hurricanes. The concluding chapters contain valuable information of a miscellaneous character, with the practical application of the law of rotation to the purposes of navigation.

At the time when Colonel Reid communicated the results of his early labours in this new field of investigation, he saw the importance of tracing the tracks of tempests in the Indian Ocean, and suggested to the Court of Directors of the East India Company that steps should be taken to accom-

* Blunt's Coast Pilot, twelfth edition.

† United States Navigation Magazine.

plish this object. Instructions were accordingly transmitted to our possessions in the East; and Mr Piddington of Calcutta entered upon the task of collating the logs and projecting the hurricanes, the records of which were transmitted to him; and no one can over-estimate the value of the Horn-Book which he has since then published. It is with pleasure we find that this valuable work has recently been translated into the French language by M. Bousquet of the Mauritius.* Having mentioned the work of Mr Piddington, it behoves us also to refer to the labours of Mr Thom,† in the same quarter of our globe; but of them more hereafter.

Having thus rapidly noticed the labours of meteorologists in this interesting inquiry, we beg to call the reader's attention to the second and most recent work of Colonel Reid.‡ And in passing its chapters individually in review, we feel that we address the landsman disadvantageously. The practical character of the volume in its application to navigation has led the author to use technicalities which may sometimes puzzle those who are not familiar with seafaring terms. In this, however, the benefit more than compensates for the evil, as he speaks home to the mariner in his own language, and the frequent appeal to the log-book of the ship has somewhat required a rigid adherence to the sententious and often terse expressions of the original.

The first and second chapters embody the principles of revolving gales, and the attending barometric oscillations. In both hemispheres these devastating tempests are characterised by a double motion, and in the early stage of their passage over a particular spot by a falling barometer. They are vast whirlwinds advancing towards the poles obliquely, but blowing in opposite directions in the two hemispheres, though following a determinate course in each. Beginning to blow about the 15th degree of northern latitude, the tropical hurricane advances along an axis directed to the north-west, till it approaches the 25th or 30th parallel. It then changes its direction to the north-east, slackening its speed while making the detour, and moving on obliquely, it is lost about the 55th degree of latitude. Looking at projections of these hurricanes in the Western Atlantic, the eye observes a striking resemblance to the parabolic curve, its focus being near the Bermudas. A remarkable exception to this, the ordinary course of the West Indian hurricane, took place in 1847. Upon the 10th of October a rotary gale was encountered in lat. 12° N., and long. 54° W., about a degree north of Tobago, and eight to the east of that island. It crossed Tobago on the night of the 11th—12th, passed on to Margarita in lat. 11°, and advancing to Venezuela and La Guyra, was lost § Similar instances have been met with among the typhoons of China; but in no case has the whirlstorm crossed the equator. 'It is not probable,' says Colonel Reid, 'that storms would continue to move on towards the equator and pass it; they would either subside, or change their direction. We cannot conceive a rotary storm

* *Lois des Tempêtes, ou Guide du Navigateur.*

† *Nature and Course of Storms in the Indian Ocean.* 8vo.

‡ *The Progress of the Development of the Law of Storms, and of Variable Winds.* London: 1849.

§ *Progress of the Development of the Law of Storms*, p. 172.

to pass the equator without subsiding, since the mode of revolution would be reversed.'

Turning now to the Indian Ocean in southern parallels, we find the analogy preserved, but the direction of the wind reversed. Blowing as before from the east, the hurricane advances at first to the south-west, and if followed through its progressive path, it will be found recurving and moving towards the south pole obliquely by the south-east. As the West Indies was found to be the focus of northern hurricanes, so in the southern hemisphere the focus of the storm is met with about the Mauritius and Rodriguez Islands to the east of Madagascar. This is well shown in the work of Thom already alluded to, and in the projections of rotary gales in the Physical Atlas.

The rate at which hurricanes move along this parabolic curve is variable. The same storm even acquires different velocities. The motion is a compound one, and its speed is the mean velocity of progression and rotation. Mr Piddington calculates the progressive movement at from three to thirty-nine miles an hour in the Bay of Bengal, and from seven to twenty-four miles in the China Seas. The first hurricane of August 1830 in the West Indies advanced at the rate of 500 miles per diem; the Barbadoes storm of 1831 moved over 2300 miles at the rate of 383 miles daily; the Rodriguez hurricane of 1843, so well described by Mr Thom, progressed at the rate of about 220 miles near the equator, and only 50 miles as it approached the tropic of Capricorn; the Malabar storm of April 1847 advanced at the rate of about 13 miles an hour, slackening to 9 miles in the same time; and to furnish another illustration, the tempest of November 28, 1838, described by Mr Milne, passed over our own country at the rate of about 20 miles an hour.

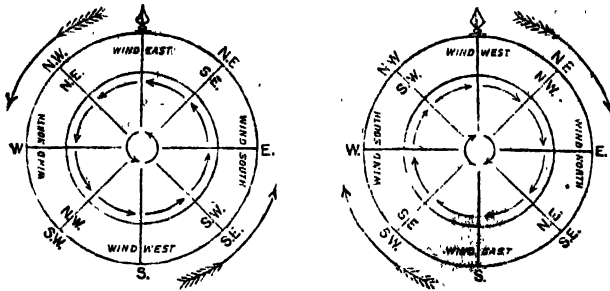
It must not be overlooked that the rate of progression of a hurricane is by no means the actual velocity of the wind. Although it may be traversing the globe at ten miles an hour, the wind, meanwhile, is sweeping round at from fifty to a hundred miles in the same time. Just in proportion to this rotary velocity will be the force or horizontal pressure of the wind; and this will be greatest when the direction of the wind in the whirl coincides with the axis of progression, and feeblest at the opposite quarter.

Having thus noticed the onward motion of the hurricane, let us consider its rotary movements. We have described the storm as a great whirlwind, revolving by fixed laws. In the northern hemisphere the direction of the wind is from east-by-north to west, and from west-by-south to east, or contrary to the movement of a watch-handle—the reverse of what takes place south of the equator. In the southern hemisphere the rotation is from east-by-south to west, and from west-by-north to east. This is a great principle to be borne in mind in tracing the path of a rotary gale.

As a consequence of this law of rotation, we find that in the northern hemisphere, with the needle pointing to the pole, the wind is east; that it blows from the north at the western cardinal point, from the west at the south, and from the south at the east—the same order being preserved through the intermediate points of the compass. In the southern hemisphere the resemblance is found, but inverted. Thus the wind is west in the north, south in the west, east in the south, and north in the east. The direction of the wind, supposing the whirl to be circular, is thus eight

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points, or 90 degrees, from the points of the mariner's compass. This will be better understood by referring to the following diagram:—



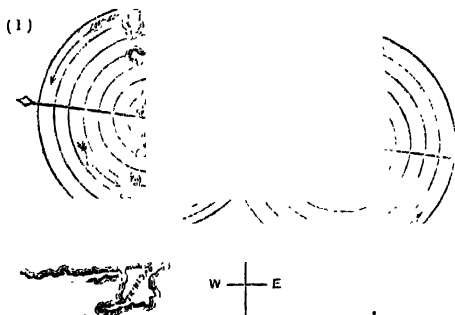
Were the hurricane stationary, or could one keep ahead of its progression, the wind would always blow from the same point of the compass, and the direction at any place would depend upon the bearing of that locality to the centre or vortex of the whirlwind. The onward motion, however, leads to those veerings of the wind which, with a falling barometer, characterise the hurricane. We find this noticed by Sir Gilbert Blane* in the Barbadoes storm of 1780. 'A ship,' says he, 'that arrived at Barbadoes six days after, had a gale of wind about the time of the hurricane, which was not particularly violent, and was remarkable only for this—that the wind blew from all round the compass; a circumstance which distinguishes the hurricane from all other gales within the tropics.'

To illustrate this veering of the wind, let us adopt the example given by Colonel Reid of a hurricane approaching the Barbadoes. Suppose the axis of the tempest crossing that island from the eastward. At first the approach of the storm will be indicated by north-easterly winds, gradually blowing due east; as the centre of the storm passes, the wind will blow apparently from all directions in a brief space of time; but soon it will set in from the south, going off at south-by-west. The diagram on the following page will illustrate what we have said, and also the veerings of the wind to the south of the equator, to be immediately referred to.

From this it follows, that during the first or western course of the West-Indian hurricane, the direction of the wind at the beginning of the storm is from a northern point, and during the latter portion of the storm from a southern quarter of the compass; and that, in the second stage, or eastern course of the same gale, the hurricane sets in with a southern wind, veering to west on the line of the storm's centre. Upon either side of the central path of the hurricane the veerings will be different, as is easily understood by keeping in mind that the wind is blowing in a whirl. A rotary storm, on approaching our island, will give to those on the right hand of the axis of progression S.E., S., and S.W. winds; while on the opposite side of its track the veering will be from N.E., N., and N.W. Let us take another illustration, and with the view of exhibiting the counter-movements of the

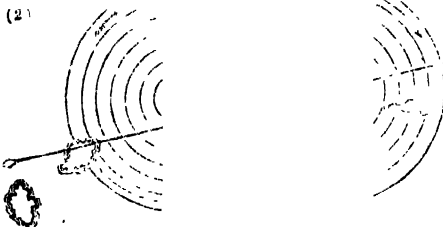
* Edinburgh Royal Society Transactions, vol. i. p. 33.

the east on opposite sides of the equator, let us suppose the hurricane approaching the Mauritius, having passed over Rodriguez Island, 300 miles to the eastward (*vide* diagram No. 2). At the commencement of the



gale the wind will set in from the south, veering by the east to north, at which point it passes off.

The gyral axis of the hurricane, or its axis of revolution, is supposed by Mr Redfield to be inclined forwards in the direction of its motion, the lower part being retarded by the resistance of the surface of the earth; and the lulls and gusts which alternate in the vortex of the storm, he considers may arise from an oscillation of this rotative axis. The dilatation of the whirl, in its progress towards the pole, is another interesting feature to which we would allude. This has been beautifully



displayed in Colonel Reid's projection of the Bermuda hurricane of the 12th September 1839. At first its diameter was not more than 5°, but when it reached Bermuda, it had expanded to about 8°, and when met with in the 50th parallel of latitude, its dilatation exceeded 13°, including within the whirlwind the whole of Newfoundland and part of Labrador. Six hundred miles is considered by Thom as the largest diameter of a hurricane in the northern part of the Indian Ocean. That of the most violent part of the Malabar storm of April 1847 was not more than 200 miles, while the breadth of the entire whirl was nearly 1500 miles.

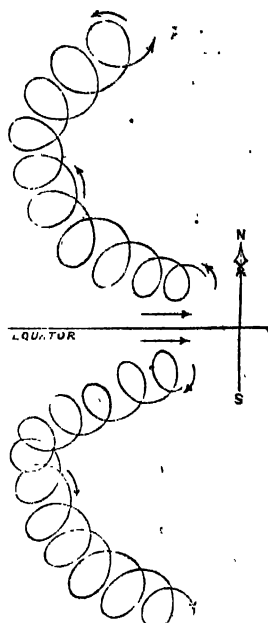
We have spoken of the hurricane as moving in *circles* for the sake of expediency: the cycloidal figure, however, would be more correct, the degree of curvature depending upon the rate of progression. This will be better understood by the diagram on the following page, which represents not only the gyrations and the progression of the gale, but the contrary movements of these storms in opposite hemispheres.

In explanation of the barometric oscillations accompanying these winds, Colonel Reid adopts the theory of Redfield, which is as satisfactory as it is simple. We have already mentioned that the mercury falls till the centre

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of the hurricane has passed. It is also observed to descend on either side of the central path of the storm in proportion to the distance of the place from the axis of progression. Should the ship steer with the axis of the storm, and at the same rate, the barometer will remain stationary throughout; and the descent of the mercury at any time will depend upon the actual fall attending the passage of the vortex, and the progress the ship has made in relation to the centre of the hurricane. To adopt a familiar illustration in explanation of the fall of the mercury, let a glass vessel be filled with water, and this fluid put into rapid revolution; the liquid will represent the atmosphere, and the motion communicated to it the whirlstorm. Observe the change which has taken place in the level of the water, and watch the effect of sliding the tumbler along a line which may represent the track of the gale. Gradually the surface of the liquid has become depressed, and this is greatest in the centre. So with the atmosphere in the hurricane. Its pressure upon the earth lessens, till the minimum is reached in the vortex of the storm, and the mercury in the tube, which is the equipoise of a similar column of air, falls in proportion. But when the centre of the gale has passed, the mercury remounts in the tube, because a greater quantity of air presses upon its surface. The depression of the mercury is thus owing, as Mr Redfield describes it, 'to the centrifugal tendency or action which pertains to all revolving or rotatory movements, and which must operate with great energy and effect upon so extensive a mass of atmosphere as that which constitutes a storm.' In performing this simple experiment, Mr Redfield points out the advantage of producing the rotation of the water by passing the propelling rod round the exterior of the fluid in contact with the side of the vessel, seeing that the impulse given by external force is thus more analogous to that which influences the movements of the hurricane. Instead of a deep and rapid vortex, like that produced by the water leaving the vessel by a hole in the bottom, or by the central application of the force, we shall have a concave depression of the liquid of great regularity. As water is more dense than air, all allowance must be made for an imperfect analogy.

To what limit upwards the rotary movement is conveyed we can only conjecture, but doubtless it depends upon the violence of the gale. Another influence of the depression of the higher strata of our atmosphere caused by the gyrations of the wind must not be forgotten. Colder portions of the air are brought in contact with the warmer and more humid strata, and precipitation of the invisible moisture takes place. Hence arise those



dense masses of clouds and the torrents of rain which accompany the hurricane.

Hurricanes blow with greatest regularity over the sea, for upon land the physical features of the country modify the direction and force of the storm; and it has been remarked, that though the fury of the tempest may prove singularly disastrous upon the ocean, an unusual fall of the barometer may at times be the only inland indication of its proximity and passage. The clouds are borne along, however, and the country is deluged with rain.

Certain seasons have been observed to be more peculiarly liable to their development. Thus in the West Indies the month of August furnishes the most copious records of these visitations, and there the hurricane season may be considered to be from that month to October inclusive. 'From a list of forty-seven hurricanes which have been experienced in the Caribbean Sea and among the West Indian islands, down to August 1848, we find that one occurred in the month of June, four in July, eighteen in August, twelve in September, and twelve in October.*' In the Indian Ocean, on the other hand, they are most frequent from December to April.

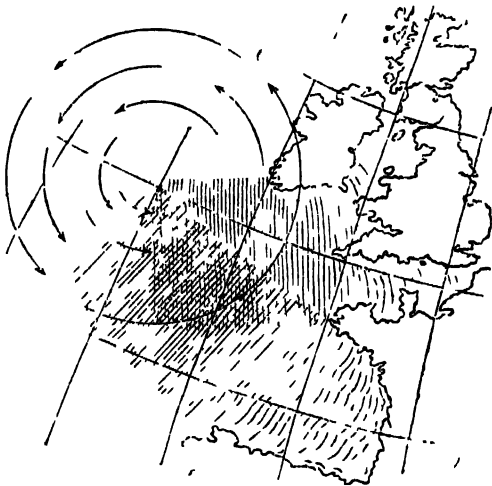
Colonel Reid's third chapter is perhaps less interesting to the landsman, but it is of great practical utility. It is entitled, 'On heaving-to, and on sailing from a gale's centre.' We have already drawn attention to the fact that, supposing the whirls to be circular, the direction of the wind is eight points from the points of the compass. Hence the bearing of a ship to the centre of the gale may be approximately ascertained, though its distance from the axis cannot be determined. If the barometer is falling and the wind veering, it may be concluded that the hurricane is approaching; but if the mercury is rising, even though the wind should blow briskly, the centre of the storm is receding. In the vortex the wind veers rapidly, and the danger of being taken aback is imminent. It is consequently of the highest moment that, with the assurance a rotary gale is approaching, the seaman should know how to steer away from the centre of the gale. Colonel Reid has clearly illustrated this important part of his subject, and left little to be desired in the way of improvement.

As the sides of a ship have received particular names, so it is well to define the sides of a gyratory storm. Standing at the helm, and looking forward, the right-hand side of the vessel is termed the starboard side, and the opposite one is called the larboard or port side; and the direction in which she is moving, if obliquely, has been termed the starboard and port tack respectively. Suppose now the ship to be advancing in the axis of the storm, that portion to the right is called the right-hand semicircle; and the other to the left, the left-hand semicircle. Practically, it has been found better that the ship should be kept up to the wind than that she should fall off from it. This is gained when the wind blows aft or by the stern in a revolving storm, and the danger is thereby avoided of getting stern-way when the vessel is lying-to and the wind turning by the prow. To quote the words of Colonel Reid:—'If it be desired to lay a ship to in a revolving storm, so that she shall *come up* to the wind, instead of *falling off* from

it, the rule will be, when in the right-hand semicircle, to heave-to upon the *starboard* tack; and when in the left-hand semicircle, to heave-to upon the *port* tack in both hemispheres.' By observing the direction of the veering, and keeping in mind the principles laid down, it will seldom be difficult to determine in which semicircle the ship may be, and consequently the tack to choose. There can be little difficulty experienced, however, if the general rule be borne in mind, to bring the ship up to the wind on the *starboard* tack north of the equator, and on the *port* tack south of the line. By these movements the ship will gradually sail away from the storm's centre. Colonel Reid points out the greater danger which exists in steering in the quadrant in the advance of the centre of the storm's track, and he reminds the seaman that not only the direction of the wind, but that of the waves, and, we would add, the position of the land if near a lee-shore, must enter into the calculation of the best course to be taken in these revolving storms. This leads to the fourth chapter—'On the direction of the swell raised by storms.'

Drop a pebble in the water, and watch the ripple. It was an amusement in our youth, and we do not enjoy it the less now. Analogous to this would be the swell raised by the storm, if the force was equally applied on every side at the same time. The sea, however, is deeply agitated in the direction of the wind, and its undulations roll on to an extraordinary distance.

The wind veers and the swell advances as a tangent to the whirlwind; but this is not the same series of undulations as the last, which are hastening to a neighbouring shore, or to break over an adjoining reef. It veers again, and a third series of undulations is propagated. Thus the wind changes and the hurricane progresses, producing a succession of undulations all moving on in the direction of their primitive impulse.



But what is the consequence?—cross seas and dreadful waves. In the preceding diagram, which represents a rotary gale setting in to the south-west of Ireland, two series of undulations are represented, one rolling on to the Bay of Biscay, and the other to the coast of England; the cross sea is indicated by the cross lines.

The waves of the Barbadoes hurricane of 1831 were propagated to the southern shores of the Bermudas, although the gale itself was not experienced there. So in the Bay of Bengal a rotary tempest, though not

felt at Ceylon, has been indicated at Trincomalee by a heavy swell rolling in from the north-east. The same storm would propagate a swell in the direction of Madras before the wind rounded to Trincomalee. This occurred in the Mazulipitam hurricane of May 1843. The *Orpheus* was then lying at Ennore, to the north of Madras, when there were brisk winds from the land, and a heavy sea at the same time setting in from the eastward. The swell may be met with in the track of the hurricane some days before the storm sets in, as is well illustrated by Colonel Reid in the following narrative, and it will be most violent in that direction :—

'I was in Bermuda,' says Colonel Reid, 'when the hurricane of 1839 occurred, and distinctly heard the sea breaking loudly against the south shores on the morning of the 9th September, full three days before the storm reached the islands, as recorded in tables of the state of the weather kept at the Central Signal Station. At that time the hurricane was still within the tropic, and distant 10 degrees of latitude. As the storm approached, the swell increased, breaking against the southern shores with louder roar and great grandeur, until the evening of the 12th September, when the whirlwind storm reaching the Bermudas set in there. When the storm had passed the Bermudas, the southern shore became calm, and the northern reefs, in their turn, presented a white line of surge, caused by the undulations rolled back from the storm in its progress towards Nova Scotia and Newfoundland. The breaking of the sea against Bermuda was heard, though not recorded in the register, on the evening of the 8th.' While this swell was being propagated in the track of the hurricane, the sea was rolling on towards the north-eastern shores of Haiti and Cuba. The water of the ocean seemed muddy around the Bermuda islands a day before the arrival of this tempest, a circumstance which appears to have been caused by undulations affecting the bottom of the sea. It has been observed that near the centre of the rotary gale the wind veers faster than the waves change their direction; but on the outer circuit of the storm the change in the wind is preceded by that of the swell.

Mr Milne * and Colonel Reid † have pointed out how a storm-wave may accompany the gale in its course, moving onward like a tidal wave, and producing temporary oceanic currents. The elevation of this wave will depend upon the diminished atmospheric pressure, and the impulse of the hurricane modified by the rotation of the wind. The effect produced by such a current will be an elevation of the tide; and should a spring-tide be then flowing, to cause inundations of flat lands. Mr Milne has shown how an Atlantic tempest produced unusually high tides in the British islands at the close of November 1838. At Plymouth the piers were covered by the sea; at Swansea the tide rose seven feet two inches above its proper level; Newry, to the north of Dublin, was flooded by the highest tide remembered; and in Scotland the wave rolled on to the Orkneys, rising above the quays. In the Bay of Bengal most destructive inundations have followed rotary storms. The Coringa hurricane of November 1839 affords a painful example. That storm, which Colonel Reid has

* Edinburgh Royal Society Transactions, vol. xiv. p. 486.

† The Law of Storms, second edition; Progress of the Development of the Law of Storms, chap. vi.

described in his sixth chapter, blew on the 12th over the Andaman islands, and reached Coringa on the 16th, where it set in with north-easterly winds, veering to east, and passing off to the southward. A loss of more than 20,000 lives has been recorded. 'There is nothing to be seen,' says an observer, 'in every direction but dead bodies and drowned cattle. Sixty native vessels which were in the roads laden with paddy have disappeared, and it is not known what is become of them. All over the country was nothing but like the sea. You can have an idea of it when I tell you that I can see from my house a Choolia sloop lying quite near to the white pagoda of Onagalo, which is four or five miles from Coringa in the interior of the land.' The swell produced rolled on to Calcutta, producing dangerous cross-seas at the head of the bay.

In the fifth chapter Colonel Reid illustrates 'simultaneous storms on opposite sides of the equator' by two remarkable storms of 1843, described at considerable length by Mr Piddington. By a singular coincidence, both were raging on the same meridian, at the same time, and within 5 degrees of the equator. The northern gale has been termed the *Fazulbarry's storm*. They exhibited in an interesting manner the westerly direction of the wind in rotary gales on the aspect next the equator. By their united influence a strong westerly gale blew between the storms, as was experienced by the *Fyzul Carreem* on crossing the equator on the 29th of November. The *Inrric* seems to have been in the very centre of the northern hurricane on the morning of the 2d December, for then there was a lull, though 'the weather looked dismal, with continued flashings of vivid lightning and loud peals of thunder'—the wind had been blowing from the west. This interval of repose was fortunately turned to good account in preparing for the approaching tempest; and scarcely was the canvas secured when the storm again burst upon them from the south and south-west; the barometer falling to 29.25 inches. The words of the commander of this ship are interesting—'It is impossible for me to describe the sea that we had to contend with. It had been blowing a gale, and no ordinary one, from N.N.E. round to the S.S.W. for the last three days; and every way we looked a mountain of water appeared coming towards us. Shortly after noon on the 2d the barometer started up to 29.80, but the gale continued without any abatement till midnight.' The *Futle Rozack*, Captain Rundle, which crossed the equator on the 20th of November on a southern track, met with 'a long southerly swell just perceptible' on the 21st; and on the evening of that day there were precursors of a storm. The stars shone sickly with unusual scintillations, and there was lightning of a peculiar character in the offing—lightning which gradually illuminated the western horizon with a sudden dark-red glare, flickering for a few moments, and gradually disappearing.

So graphic is the description of the phenomena by Captain Rundle, that we willingly extract the following from the log:—Upon the 23d the barometer was 'considerably fallen, with an exceedingly long swell from the southward, and at 7 a high N.N.W. sea meeting the southern swell, created an exceedingly turbulent sea. In the squalls the sea has a strange appearance, the two seas dashing their crests against each other, shoot up to a surprising height, and being caught by the west wind, it is driven in dense

foam as high as our tops. The whole horizon has the appearance of ponderous breakers.

'At 8, barometer still falling. Has there been a gale? Much electricity by the appearance of the clouds; current fifty-nine miles N.E. by E. $\frac{1}{2}$ E. P.M.—Breeze decreasing to $1\frac{1}{2}$ knots, winds west to south, and at times calm. Making preparations for bad weather, appearances being suspicious. Midnight, squally, rain, and calms; dark, dismal appearances all round, and increasing southerly swell.

'November 24th.—Dark and gloomy winds variable from S.E. to S.W., noon lat. $5^{\circ} 32'$ S., long. $84^{\circ} 49'$ E. Barometer 5 A.M. 29.57; at 9, 29.63; at noon, 29.64. I do not like this gloomy weather: with wind lulling and then coming on again with a warning noise, there either has been or will be bad weather. At 4 calm; at 5 severe squalls from S.S.W.; tremendous high sea from the southward; ship rolling dreadfully at intervals. Barometer at 8 P.M. 29.63.

'25th.—A.M. Wind south, veering to the S.W. and *vice versa*; strong gusts from S. to S.W. with a high cross-sea, occasioned by a short northerly sea meeting the long south swell. Noon, strong gale at intervals, but decreases as the wind hauls to S.W., increasing to southward. Ship under close-reefed main-topsail and foresail; lat. $5^{\circ} 42'$ S., long. $85^{\circ} 3'$ E., standing to the E.S.E. Barometer at 6 A.M. 29.64, at noon 29.63. *

'P.M.—Strong gales S.W. by S., mostly from the S.W., attended with violent squalls. The rain water exceedingly cold, the sea water very warm, much more so than usual. Mountainous sea from the southward. Lofty scud above the lower strata of clouds flying quickly to the southward at 7, breaks in the clouds, stars visible, but very dull. Barometer at 10, 29.61. Midnight, wind in severe gusts succeeded by lulls of a very few minutes' duration. Clouds, low stratus not perhaps at 100 yards' height, flying before the wind; breaks at times in the clouds, stars visible, with lofty scud flying with inconceivable rapidity to the southward.

'26th.—A.M. Laid-to under close-reefed main-topsail. Wind S. to S.W.; squalls with rain; exceedingly turbulent sea; noon lat. $5^{\circ} 30'$ S., long. $86^{\circ} 23'$ E.; barometer 6 A.M. 29.62; at noon, 29.63. P.M.—Fresh gale with furious squalls, and rain as cold as ice; edging away to E.S.E. and S.E. by E. under two close-reefed topsails; wind S.W., and at intervals W.S.W. and W. At 8, ropes and gear on deck brilliantly spangled by small luminous sparks from the sea, which, when examined, appeared to be fragments of medusæ. Again visible to the W.S. westward the sullen red glare and flickering lightning; midnight squally, sea presenting flashes of phosphoric light in all directions. Barometer at 9 P.M. 29.63; clouds, low stratus and ponderous nimbi.

'27th.—A.M. Increasing gale west; and at 2, N.W. to noon, very high sea; at 1, wind shifted from W.S.W. to N.W., creating a tremendous sea; 10 A.M. struck by a heavy sea, which laid the ship on her beam ends—lost main-topmast; scudded before the wind to the S.E. under bare poles. Barometer falling rapidly; noon lat. by dead-reckoning $6^{\circ} 38'$ S., long. $86^{\circ} 53'$ E.; barometer $5\frac{1}{2}$ A.M. 29.63, at 10^h 29.53, at 11^h 29.47, at 11^h 29.44, at noon 29.43. and thermometer 80° ; clouds throughout exceedingly low stratus.

'P.M.—Wind N.W. to 10 P.M. when N.; course S.E. to 10, and then

south; three feet water in the hold, and most of the crew sick; vessel making only four knots per hour before the wind, and labouring excessively. At 6, barometer rising very fast, and at midnight falling again, with dark gloomy threatening weather all round. Barometer at 2 P.M. 29.46, at 4^h 29.47, at 5^h 29.56, at 6^h 29.62, at 7^h 29.63, at 9^h 29.61, at 9¹/₂^h 29.58, at 10¹/₂^h 29.62, at 11^h 29.50, at midnight 29.49 inches.

'28th.—Wind N.E. the whole twenty-four hours. A.M.—Increasing gale, wind *veering suddenly* to N.E. in a furious squall; lost fore-topmast, ship lying-to in much distress. Barometer 29.47 at 1 A.M., 2 A.M. 29.45, at 5 A.M. 29.44, at 6^h 29.43, at 11^h 29.45, at noon 29.49. Lat. by dead reckoning 7° 39' S., double altitude 7° 47'; long. 87° 17' E.

'P.M.—Wind N.E.; tremendous squalls blowing with inconceivable fury; the sea rising in huge pyramids, yet having no velocity, but rising and falling like a boiling caldron. I have never seen the like before. I was in the height of the terrible hurricane of September 1834, in the West Indies; I have been in a typhoon in the China Sea; in gales off Cape Horn, the Cape of Good Hope, and New Holland; but never saw such a confused and strange sea: I have seen much higher seas, and, I am sure, wind *heavier*, but then the sea was regular and the wind steadier.'

'10 P.M.—Dreadful squalls and a confused sea; both cutters washed away, and mizen-topmast carried away; blowing still harder, but barometer rising; midnight, tried to set the foresail and scud, but it was blown to pieces. Barometer 2 P.M. 29.49, at 5^h 29.5, at 10^h 29.53, at 11^h 29.54, at midnight 29.50.

'29th.—A. M. Wind N.E. till noon, still blowing fearfully at times. Again tried to scud, and ran S. by W. fifty-eight miles to noon; barometer steadily rising. 10 A.M. good sight for chronometer; 2 A.M. the barometer 29.57, at 7^h 29.57, at 10^h 29.58, at noon 29.59; lat. 9° 47' S., long. 87° 18'.

'Noon—Blowing with inconceivable fury at times, with the sea, I think, more agitated and confused than ever; rising up in monstrous heaps, and falling down again without running in any direction. Noon—laid-to again.

'P.M.—Violent squalls and tremendous high sea; three feet water in the hold; wind N.E. to E. Midnight, more moderate at times. Barometer 2 P.M. 29.60. Clouds during these twenty-four hours exceedingly low; stratus scudding in all directions; upper strata to the southward, lower to the west, at other times apparently to north and east.

'30th.—A.M. Gale abates a little; high sea; ship lying-to with tarpaulins in the mizen-rigging; wind marked N.E. to E.; barometer, noon, 29.61; lat. obs. 10° 48' S., long. 86° 46' E.

'December 1st.—Gale and sea moderating.

'2^d.—Moderate and passing squalls, sea much gone down, repairing damages; winds E. to noon.

'3^d.—At noon quite fine.'

Colonel Reid remarks that the terrific sea of the 28th may have been caused by the southern hurricane alone, but it may have been augmented by the swell rolling from the gale on the other side of the equator, the distance between the storms being only 10 degrees.

In the sixth chapter the 'Storms of the Bay of Bengal' are investigated.

Keeping in view the principles laid down, it will be easily understood why the Birman coast should be a lee-shore while the southern semicircle of the whirlwind is passing from the eastward; and why the coast of India becomes a lee-shore when the opposite half of the rotary gale is impinging upon the land. Practically this is a point of considerable moment, for it is a matter of no little difficulty to be able to steer from a lee-shore in a tempest with a shifting wind. This chapter is illustrated by the narratives of several storms, and there is a good projection of the Madras gale which began on the 22d of October 1842, to the west of the Andaman islands, crossed the southern part of Hindoostan upon the 24th—25th, and expired on the 2d of November near the shores of Arabia. The modifying influence of land upon the rotary character and force of this storm imparts to it considerable interest. The incidents recorded in the logs are often deeply affecting, and the whole narrative may be studied with advantage. The *Seaton*, from Aden to Bombay, weathered the hurricane, but was necessitated to put back in a sadly crippled condition. Had she altered her course when the precursors of the tempest forewarned of the impending danger, she might have proceeded on her voyage, and reached her destination in safety; but being disabled at the beginning, she appears to have drifted round the whirl's centre. On the evening of the 30th October 'the sun went down fiery red and contracted in appearance. His rays, instead of glancing obliquely across the waves, seemed to dip and lose themselves almost perpendicularly in the long heavy swell.' The barometer was then 29.7 inches, and the wind was strengthening, so as to require reefing and stowing of the sails. By this time the hurricane had advanced eastward several degrees from the western shores of India. On the following day the *Seaton* was in N. lat. 14°, and E. long. 61°, when the gale burst in all its fury. Away in an instant went every stitch of canvas, and was lost, and mast after mast yielded to the unseen power, the mizen-mast alone standing. The mercury continued to fall, till in the height of the gale the minimum, 27.6 inches, was read off—two inches and a tenth below the indication on the preceding day! Upon the 1st of November the ship was in the vortex of the whirlwind.

'At daylight the wind lulled a little. At 8 A.M. the hurricane recommenced with redoubled fury. The wind, which before was N. and by W., suddenly shifted to the E.S.E., and settled at E.N.E. Sea breaking over her fore and aft, making a clear sweep of the deck. It is a matter of surprise and congratulation that none of the men were washed from the pumps, which were kept incessantly going during the intervals of the sea. The spray was flying so furiously and thick, that the fore-castle could not be distinguished, and every part of the body that was exposed smarted from its effects.' The rain fell in torrents, and the lightning was awfully vivid, as it darted 'from the intensely dark masses of clouds that pressed down, as it were, on the troubled sea. In the zenith there was an obscure circle of imperfect light, of 10' or 12°—*el ojo*, or storm's eye. 'When the hurricane took off, the scene to leeward was awfully grand: thick masses of the darkest purple-coloured clouds were rolling over each other in inconceivable confusion, tinged and lighted up in different places by intensely vivid lightning. The hoarse roar of the retiring storm, mingled with the hollow groan of continued thunder, as they slowly retreated with

the gale, left an impression on the mind not easily to be forgotten. The respiration of every person on board was affected.'

We will close our sketch of this chapter with an abstract of what befell the transport-ships *Briton* and *Runnymede*, with troops on board for Calcutta, in November 1844. The former was bound from Australia, the latter from this country, and both reached the eastern side of the Bay of Bengal at the same time, encountering together a rotary storm moving from the direction of the Gulf of Siam to the Andaman islands. After enduring severe weather for some days, the gale strengthened to a terrific hurricane on the 10th. There was a lull on the night of the following day, the sympiesometer falling to 27·2 inches; the wind increased in fury, and at 1 A.M. of the 12th the *Briton* struck. When light dawned, the ship was found high and dry in a mangrove swamp, the *Runnymede* lying close to them, upon one of the smaller islands in that group.

Upon the 10th of November, the *Runnymede* lost part of her canvas and smaller masts about 2 P.M., but she lay to under bare poles, perfectly tight. The rain was pouring down in torrents, and the wind was terrific. By 9 o'clock the main and mizen-masts alone were standing, and an hour later no one could hold on the poop for wind and rain.

'November 11th.—Hurricane equally severe; wind S.E. (barometer 28·0); the gusts so terrific, mixed with drift and rain, that no one could stand on deck; advantage was therefore taken of the lulls to drain the ship out, and clear the wreck. The starboard bower anchor hanging only by the shank painter, and the stock (iron) working into the ship's side, the chain was unshackled, and the anchor cut away. Noon—lat. acct. 11° 6' N., long. 95° 20' E.; no observations since the 7th. Barometer apparently risen a little. Hurricane equally severe in the gusts; the ship perfectly unmanageable from her crippled state, but riding like a sea-bird over a confused sea, *running apparently from every point of the compass*. A large barque, with loss of topmasts and mainyard, drifted ahead of us, and a brig was seen to leeward totally dismasted. At 4 P.M. barometer fell to 27·70, and Cummin's mineral sympiesometer left the index-tube. Hurricane blowing terrifically; the front of the poop to leeward, cabin door, and skylights torn away, and expecting every moment the poop to be torn off her. *The severity of the wind is beyond description. There is nothing to compare to it; for unless present, no one could conceive the destructive power and might of wind, crushing everything before it as if it were a metallic body!* At 1 P.M. no abatement—every one, sailor and soldier, doing all in his power to keep the ship free of water. Could not stand at the pumps: the water being principally in the between decks, it was baled out by the soldiers as much as possible.

'12th. — Midnight; hurricane equally severe; the gusts most awful, and rudder gone. At 1·30 A.M. felt the ship strike, and considered the destruction of our lives as well as ship sealed; but it pleased Almighty God to decree otherwise, for although the ship filled up to the lower beams with water, she was thrown so high on the reef that the water became smooth, and the bilge pieces keeping her upright, she lay comparatively quiet. Not knowing our position, the ship being bilged, and fearful of her beating over the reef into deep water, let go the larboard bower anchor, and found the water leaving her. All hands fell asleep.

'Daybreak; hurricane breaking; much rain; wind E.S.E. (barometer rising rapidly, until it stood at 29.45). We then, thank God! saw the loom of the shore to leeward, the ship being nearly dry abast. On its clearing away, we saw inside of us, up among the trees, a large barque with troops on board. One officer and twelve men were sent over the stern to communicate with her. At 7 A.M., the tide now rising, orders were given for the men to land at next low water, and if possible to get something cooked, as no fires could be kept in during the hurricane—the crew and troops merely having biscuit and a glass of spirits during the time it lasted. At 3.30 P.M., the tide having fallen sufficiently to wade on shore, Ensign Daberny returned on board, and stated the vessel in shore of us to be the *Briton*, from Sydney, with 311 men, 34 women, and 51 children, of H. M. 80th Regiment, under the command of Major Bunbury, with a crew of 36 men, bound for Calcutta, and short of everything.'

The seventh chapter of Colonel Reid's work is devoted to the 'Storms of the Arabian Sea,' the importance of which is considerably increased by our 'overland' communication with the East. It is to be regretted, however, that up to this time our data for collating particular tempests there should be so scanty. The Madras storm of April 1847, in which the steam-ship *Cleopatra* was lost, is described at some length. Of this hurricane Mr Piddington,* Mr Thom,† and Captain Charles‡ have also published independent narratives.

This whirl-storm seems to have originated over, and to the south of Ceylon, on the 14th of April, and on the following day easterly winds blew at the Observatory of Dodabetta, on the Neilgherry Hills, with a force not exceeding ten lbs. to the square foot. Upon the 16th the vortex of the storm was about a degree west of Cape Comorin, on the 17th it was off Calicut, and on the 18th to the south-west of Goa. The track of the hurricane thus coasted the western shores of India, advancing northwards; but it does not seem to have reached Bombay, for there no tempestuous winds were encountered. Interesting records are preserved of the gradual fall of the barometer, from the exterior circles of this whirl-wind to the vortex, even from Madras, distant on the 17th 300 miles, and on the 18th 480 miles from the storm's centre. A strong current flowed along the Malabar coast northwards, and an extraordinary fall of rain took place both at sea and on land. At Tellicherry the rain-gauge measured twenty-nine inches.

To one catastrophe we have already alluded. It was the loss of the H. C. steamship *Cleopatra*, bound for Singapore with convicts. This ill-fated vessel sailed from Bombay on the afternoon of the 14th, heavily laden with coals and provisions, and on that account less able to resist the fury of the wind and waves. Her course was southward, near to and against that of the hurricane, the sea-current of which she probably met on the 16th, when near Mangalore. The adverse winds must now have been increasing. With land to the port quarter, and the axis of the gale to the starboard, with furious winds augmenting in force, and with a tempestuous

* Journal of the Asiatic Society of Bengal.

† Bombay Times.

‡ Journal of the Geographical Society. 1849. vol. XIX. p. 76.

sea, the situation was perilous and the dangers were increasing. On the 17th, at eight A. M., she is supposed to have been in lat. $12^{\circ} 5' N.$, 40 miles from land, 50 from the nearest of the Laccadives, and 428 from Bombay: there it is believed she foundered.

We will only refer to what befell another ship, the *Buckinghamshire*, and pass on to the next chapter. This vessel ran parallel with the storm during the greater part of its fury. 'On the 14th,' says Mr Thom, 'she was in the westerly half of the circle, with bad weather, at N. and N.N.W., and as she neared the island of Mincoy the N.E. wind delayed her, until the focus of the gale had passed from between her and the coast of India. On the 17th the gale veered to N.W., enabling her to run 120 miles to the eastward, crossing through its equatorial side, crossing its wake, and getting in between it and the land of India. On the 18th she availed herself of the strong southerly gale on the east side of the vortex, and ran along the coast N.N.W. and N.W. by N. The current and wind being favourable, her speed was eleven to twelve knots an hour. Thus she ran up to the focus, passed ahead of it, with the gale veering from S. by W. to S. and S.E., and in consequence of the jutting out of the coast near Vingorla, she was forced to keep off N.W. by W. at the very time when the vortex was assuming a northerly course, and approximating the land.' The consequences were very disastrous. Instead of lying-to on the 18th, before the wind veered from south to eastward, she pursued her course, was borne into the very centre of the storm, and there dismasted. In the log we find the weather stated to have been that day 'threatening, and all the glasses falling rapidly. At noon, the gale being augmented to an extraordinary degree, kept the ship before it. Barometer, last marked, 28.35 about this time.' The following are the captain's 'remarks':—

'April 19, 1847.—The gale blowing furiously, and veering to the eastward; cut the foresail from the yard, and hauled it on deck; the fore-topsail blew entirely away. At 0.30 P.M. the ship inclined to broach-to; cut away the mizenmast, and kept her before it; blowing a hurricane; blew away the main-topmast, the hurricane increasing, and the foremast bending to its force. About 1 P.M. the foremast fell over starboard; a most furious gust blew away the mainmast near the deck; the quarter boats blew away, the starboard or large cutter flying across the poop. The poop ports having been blown in, the violence of the wind blew down the back-heads, destroying the barometers, and everything in the cabins. The ship covered with spray, and labouring excessively in a tremendous sea—the rapidity of her motion tearing everything on the different decks and in the hold adrift. Men unable to stand on their legs, or to hear one another shout. Two P.M. the wind, which had been for the last half hour indescribably furious, suddenly ceased entirely.

'The sympiesometer in the calm continued to stand at 28.08. The fore and mainmast, which had got under the bottom, were now cut adrift. The ship covered with aquatic birds, thousands of them dying on the deck. About 4 P.M. the wind, that had ceased at E.S.E. or E., began to blow with equal fury at W.N.W. The ship was again enveloped with the sea, and labouring with a violence that nothing could resist; $3\frac{1}{2}$ feet water in the hold. At 9 P.M. the wind abating; sympiesometer 28.96. At midnight, moderate wind at W.; sympiesometer 29.1. Daylight, squally at

W.; commenced rigging a jury-foremast; Chinese at the pumps. At 9 A.M. saw the Vingorla Rocks by N.E. $\frac{1}{2}$ E.; crew at the pumps. Noon, squally at W., with showers.

'20th.—1^h, Set the fore-topmast staysail and a fore-topgallant sail on the jury-foremast, and bore up for Vingorla. 4^h, Westerly breeze and squally. Passing about 2° south of the Vingorla Rocks. 7^h, Light breeze and squally, with showers. S. Vingorla Rock W. $\frac{1}{2}$ N. At 7-30, anchored with the larboard bower in 9 $\frac{1}{2}$ fathoms. 10^h, Burnt blue lights. 12^h, Fresh westerly breezes. 6^h, Turned the men out to the pumps. 8^h, A vessel with only her foremast standing, and steering by a spar over the stern, running into the rocks. 11^h, Fresh W.S.W. breeze, and fine. The stranger firing guns. 12^h, Sent a letter on shore in a water cask.

'21st.—1^h, Moderate westerly wind and squally. 3^h, Moderate W.S.W. breeze and cloudy. (We have been since told that Major-General Morse came down to the beach this afternoon, and offered 200 rupees to any boat that would come off to us; but although the weather was moderate, such was the terror caused by the recent loss of life and property, that there were no volunteers.) 11^h, Variable and squally night; heavy rain. 6^h, Squally, with heavy rain. Filled some casks with rain water, salt water having found its way into the ship's tanks during the hurricane. 10^h, Collecting pieces of beef and pork, and other provisions amongst the coals, the casks having been smashed. 12^h, Fresh breeze, and squally; rigging a jury-mainmast.'

Many of the native craft, or pattamars, were lost in this terrific gale, being driven to sea by the east wind, and brought back again by the west wind, or sunk. In standing up the coast after the tempest, the *Seagatris* passed the wrecks of many boats between Mangalore and Vingorla, and the sea was covered with sad tokens of the desolation.

We now pass from the Arabian Sea to that of China, and in the eighth chapter we have a full account of the typhoons which blow there. These storms are in all respects similar to the West Indian hurricanes, occurring, too, at the same seasons. Of thirty typhoons described by Mr Piddington, one took place in June, four in July, five in August, ten in September, seven in October, and three in November. It is interesting to compare these numbers with those already given, keeping in mind that we have forty-seven in the one case, and only thirty in the other, or, more correctly, twenty-seven, for three blew in November. Thus we find that the same number occurred in the months of June and July; but in August we have eighteen hurricanes and only five typhoons; in September, twelve and ten respectively; and in October, twelve and seven.

Keeping in view the grand practical bearing of these investigations upon the course of vessels falling in with rotary storms, we cannot omit drawing attention to the position of ships sailing to and from Canton, as pointed out by our author. Advancing from the eastward with a north-westerly progression, the typhoon meets the ship sailing northwards to the Chinese port, on the side on which the wind blows westerly. By lying-to till the wind veers to the south-west, not only are the dangers avoided, but a fair wind for the rest of the voyage is obtained. Far different, however, is the position of the vessel leaving Canton for the south or eastward. The

centre of the gale being then about the eighteenth parallel of latitude, the current will set in strongly towards the lee coast of China, or the Island of Hainan, and the wind will be easterly. In the northern half of the storm the port tack leads the ship into the vortex, while the starboard tack will carry her to the lee shore. 'Incidit in Scyllam qui vult vitare Charybdim.' The veering of the wind to the south must in this case be carefully watched, and taken advantage of, to clear the land.

Without describing these typhoons in detail, we would notice one on account of the unusual barometric indications. It was that of November 1837, encountered by the *Ariel*. Upon the 17th, with an increasing gale, the mercury stood at 30·10 inches, and the instrument is said to have been in good order at the time, and to have remained so for eighteen months thereafter. At daylight the wind 'hauled to the north in a tremendous squall. 10 A.M.—Blowing awfully hard, and sea beyond description. Noon, typhoon blowing dreadfully; wind N.W., and sea like pyramids all round; could not look to windward for the wind, rain, and sea blowing on board; the ship frequently lurching; half the main-rigging and oftentimes the bowsprit under water. Barometer fell to 29·80. P.M.—Wind W., a most dreadful typhoon blowing; ship in a most perilous situation.' Shortly after this she was dismasted, and at 6 P.M. the mercury rose to 30·10. The following day it continued mounting, with a strong gale, and on the 19th it reached the maximum of 31·30 inches—a difference of an inch and a-half from the lowest altitude during the storm. This was a very remarkable elevation, and seems to have arisen from the augmented pressure of the atmosphere, when the direction of the wind in the circle coincided with that of the north-east monsoon, which was then blowing hard.

At the close of this chapter, Colonel Reid gives a fine illustration of good seamanship in the case of the *Black Nymph*, Captain J. V. Hall,* which we will quote at length, seeing it shows not only how to escape a rotary storm, but also the value of the barometer as a warning of its approach. We well remember the interest with which we first read the account given by Dr Arnott† of an almost miraculous escape of a noble ship, by watching the falling of the mercury on a beautiful afternoon, and providing against the impending danger; and we have been pleased to observe the feeling of attachment which exists towards that instrument on the part of those who have made it their constant guide in protracted voyages:—

'When three or four days' sail from Macao,' says Captain Hall, 'about noon, I observed a most wild and uncommon-looking halo round the sun. Next day set in with light squalls, smooth water, but strong ripples. The afternoon was remarkably fine; but casting my eye on the barometer, I saw it had fallen considerably since noon. I thought at first some one had meddled with it, though, looking again half an hour afterwards, I was convinced it was falling rapidly. Still the weather seemed very fine, and I thought it strange; but I was inclined to trust to my old friend, which, by its timely warnings, had saved me many a sail and spar before, and at other times had often enabled me to carry on through an uncomfortable-looking night. On this occasion it proved itself worthy of trust, and I should have had cause to regret had I neglected its warning, and trusted to

* Nautical Magazine.

† Elements of Physics, vol. i. p. 350.

appearances only. About 3 P.M., the barometer still falling, though the weather continued fine, I ordered the crew, employed in cleansing the ship and preparing for harbour, to strike topgallant-masts and yards, mizen-top gallant-mast, and jib-boom, the sails and rigging of which I put *below*, and indeed divested the rigging aloft of all top-hamper, and everything that could be spared—secured sails and latches, close-reefed the topsails, and boats hoisted on board, and well secured.

‘Done beforehand, all was done quickly and well. I daresay *Jack* thought it funny work, making all this preparation on a fine afternoon; and some of them looked about, weatherwise, to divine the reason; but in a few hours the most incredulous were satisfied with the prudence of the operations. Quiet succeeded to bustle, and the barometer still falling, I said to myself, Now in reality is coming one of these “typhoons;” and having previously been led to pay some attention to the subject, I looked to its approach with a mingled feeling of apprehension and curiosity.

‘Towards evening I observed a bank in the S.E. Night closed in, and the water continued smooth, but the sky looked wildish—the scud coming from the N.E., the wind from the north. I was much interested in watching for the commencement of the gale, which I now felt sure was coming; and considering the theory to be correct, it would point out my position with respect to its centre.

‘That bank in the S.E. must have been the meteor approaching us, the N.E. scud the outer *north-west portion of it*; and when at night a strong gale came on about N. or N.N.W., I felt certain we were on its western and southern verge. It rapidly increased in violence, but I was pleased to see the wind veering to the N.W., as it convinced me that I had put the ship on the right tack—namely, *on the starboard tack*, standing of course to the S.W.

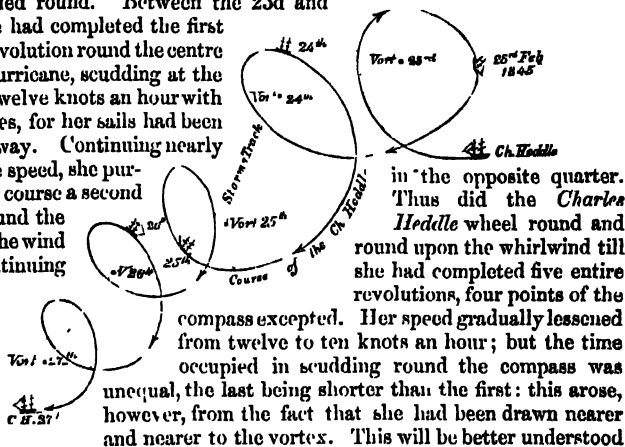
‘From 10 A.M. to 3 P.M. it blew with great violence; but the ship being well prepared, rode comparatively easy. The barometer was now very low, the wind about W.N.W.—the centre of the storm passing doubtless to the northward of us, and to which we might have been very near had we in the first part put the ship on the larboard tack, and stood to the N.E., and towards the centre instead of on the starboard tack, and to the S.W. the opposite direction.

‘About 5 P.M. wind at W.S.W. sensibly decreasing—the barometer rising. At 6, fresh gale; made sail to keep ship steady; a very great sea on, and towards midnight it became a moderate gale. The wind having now become S.W. to S.S.W., the ship broke off to S.E. Thinking it a pity to be lying so far out of our course, I wore to N.W., and made sail; but in less than two hours heavy gusts came on, and the barometer began again to fall. I now thought, of course, we were approaching the storm again; and doubtless the theory is not mere speculation. I wore again to the S.E., and to show more clearly how great a difference a very short distance nearer to or farther from these storms makes, the weather rapidly improved. The next morning it was fine and moderate, and the wind became S.E., with a heavy-running westerly swell. Until the afternoon there was a dark, wild appearance in the westward, which seemed to me another proof that it was the meteor which had the day before appeared in the S.E., and whose course had been from S.E. to N.W., passing a little northward of *my position*.

In the ninth chapter, which is both deeply interesting and instructive, we have three remarkable 'tropical storms in the southern hemisphere' described. These are the *Hedde*, the *Rodriguez*, and the *Culloden hurricanes*. Although appropriately collected together in this chapter, these tempests have received very full exposition elsewhere by Mr Piddington,* Mr Thom,† and Colonel Reid.‡

The first of them affords us the very curious example of a ship—the *Charles Hedde*—scudding for five days before the wind, while she sailed five times round the vortex of the storm, keeping the wind always in the quarter opposite that in which she was scudding. The log is too long to be quoted, but it is one of the most remarkable documents in the volume.

This ship sailed from the Mauritius on the 21st of February 1845, on a northerly course, and shortly thereafter she encountered the gale. Upon the 22d, at 1 P.M., her course was W.N.W., then N.W., changing to N.N.W., N., N.N.E., and N.E.—the wind constantly veering aft as the brig sailed round. Between the 23d and



by referring to the preceding diagram.

Passing to the *Rodriguez* hurricane, which has received such ample illustration by Mr Thom, we find that it blew upon the 26th of March 1843, near the 11th degree of south latitude, and upon the 90th parallel of east longitude, having commenced three degrees farther north, and seven to the eastward, about two days previously. Several vessels were so unfortunate as to encounter this storm, and ship after ship sought shelter in the Mauritius. Each had its own tale of woe; and all bore testimony to the severity of the tempest as they approached that island in a very crippled state. Upon looking at the projection of this hurricane and that of the Madras storm of 1842, a remarkable resemblance is observed. Both began about the same distance from the equator, although on opposite sides of it, and on the same parallel of longitude—the Rodriguez storm, however, being

* Journal of the Asiatic Society of Bengal.

† Inquiry into the Nature and Course of Hurricanes, &c.

‡ The Law of Storms. 1838.

on a more extensive scale. We are struck, too, by another feature in this rotary gale, to which we have already referred in treating of the motion of the hurricane—at first advancing with gigantic strides, but slackening in its progress as it sped onwards. The course of some of the ships is exceedingly interesting, and the logs of all of them are worthy of careful study. The *Katherine Stewart Forbes*, which was near to the place where the tempest originated, steered parallel to, and upon the southern edge of, the storm during a period of twelve days. Upon the 6th of April, however, she bore into the storm, meeting confused seas and heavy rains; and till the 10th she was more and more involved in the vortex of the gale.

It falls us to tell of the *Margaret*, on the northern margin of the hurricane at one time, and contending with the winds in its very centre at another; or of the *Robin Gray*, the *Broxbourbury*, the *Sea Queen*, the *Velore*, the *Argo*, or of the other ships which were tossed upon the billows in this terrific whirlstorm. Referring the reader to the original for the interesting details, we come to the *Culloden's* hurricane of March 1809, so well described by Colonel Reid in his former work.

This famous tempest raged to the east and south of the Mauritius, while a fleet of merchantmen were under convoy of the *Culloden* and the *Terpsichore*, with four other ships of war. Some of the vessels ran before the wind for days; others sailed into the vortex, and perished; some, by lying-to, soon got out of the danger; while others, by crossing the peaceful area between the two branches of the hurricane, encountered a double storm blowing in opposite directions; and there were some which escaped the gale by cruising beyond the whirls. Four Indiamen, which were last seen on the 15th, must have foundered about the time when the storm recurved towards the south-east. Although Mr Thom regards the two branches of this storm as distinct rotary gales, we consider that Colonel Reid has established their unity.

Passing over the tenth chapter, which is chiefly tabular, but in which our author points out the advantage of studying the extratropical winds, called Variables, not by the regular divisions of time, but by barometric fluctuations, we find him in the eleventh chapter describing the 'gales at Madeira, and in the Mediterranean.' But these need not detain us: we may observe, however, that it is to be regretted that so few rotary storms about the eastern side of the Atlantic and in the Levant should be recorded.

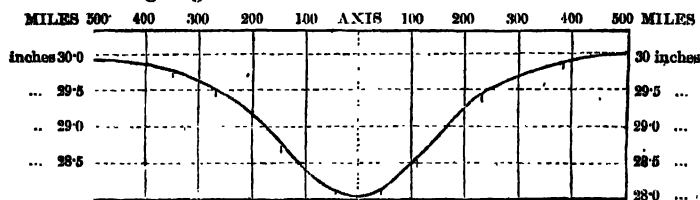
In the twelfth chapter the labours of Mr Redfield* 'On the Northers of the Gulf of Mexico, and on the influence of contemporaneous gales on atmospheric pressure,' receive ample elucidation. He has made projections of the paths of three rotary gales; one of which blew nearly parallel to the 23d degree of latitude, from longitude 63° W. to Durango, in Mexico, passing over that track in ten days. Probably it passed to the Pacific Ocean, and there recurved, or was spent before it had lost its westerly progression. The second blew in October, same year (1842), to the north-east of Vera Cruz, passed over Florida in lat. 30° N., and was lost on the 10th to the north-east of Bermuda. The third is the *Cuba* hurricane of 1844, which appears to have come from the countries of Honduras, Poyais,

* American Journal of Science and Arts, 3d Series. 1846.

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and Yucatan, and entered the Caribbean Sea on the 3d of October. It crossed Cuba on the 5th, and pursuing a north-easterly direction, swept with extraordinary rapidity the salient points of North America to the east, and Jamaica, the Bermudas, and Newfoundland, to the west of the axis of progression. The loss sustained by this violent gale was estimated at a million sterling; seventy-two ships were wrecked or foundered at the Havanna. At Matanzas, in Cuba, the barometer fell to 28 inches on the 5th, and remounted to 29·8 on the following morning at nine o'clock.

It is interesting to observe the gradual sinking of the barometer towards the gyratory axis of the storm, on both sides its tracks, and over its entire breadth of 1000 miles. This will be more easily understood by referring to the following diagram :—



Mean Barometric Curve across the Centre of the Cuba Hurricane of October 1844,
transversely to its path. Vertical Scale one-half.

The ordinary causes of barometric fluctuation—such as the time of day, state of atmospheric temperature and humidity—are here of secondary influence in producing the remarkable depression in, and from, the axis of the storm; the centrifugal force of the revolving wind, as already explained, is the true cause of the sinking of the mercury. During the progression of this hurricane, the pressure did not increase with increase of latitude, and throughout its course the mean barometric curve was very steadily the same. On the posterior side of the storm, however, the return of the mercury to its former position was, at some places, apparently more rapid than its previous reduction—an effect contrary to what has been observed in other gales.

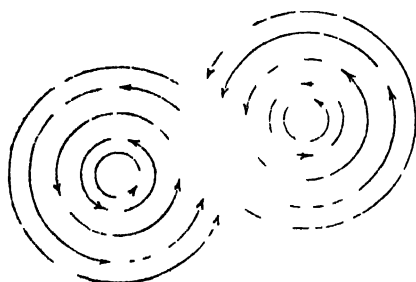
‘Thus,’ says Mr Redfield, ‘during successive days of the storm’s greatest activity, and while passing through 25 degrees of latitude, and near 23 degrees of longitude, we find an extraordinary barometric depression, the intensity of which increases rapidly as we approach towards the axial area of this great progressive whirlwind, coinciding also most remarkably with the progress and intensity of the whirling action. We find, too, that the greatest intensity of the hurricane, and of its influence on the barometer, has no necessary connection or coincidence with the local point of greatest rain or condensation; nor can any such coincidence at all lessen or contravene the known centrifugal force of rotation.’

‘The same law of centrifugal action must tend to produce an accumulation of pressure beyond the verge of the active whirlwind, or at least in the areas or spaces which separate distant storms.’ The latter remark is worthy of attention—the cumulated pressure on the flanks of contemporaneous gales, or of storms rapidly following one another, not only raising the mercury to an unusual height, but influencing the height of the tides.

We have thus followed the development of the law of storms step by

step to the 50th parallel of latitude. We have hitherto found the hurricane blowing with great regularity, preserving in a remarkable manner a prescribed track, rotating with little variation in a determinate way, and the barometer falling and rising again with singular steadiness. But beyond that parallel of latitude we discover certain irregularities accompanying the veering of the wind and the attending phenomena, increasing as we advance towards the pole. To the investigation of the 'Gales of High Northern Latitudes,' the thirteenth chapter is devoted, and to us it is one of especial interest, for the hurricanes which visit our own islands are therein described.

Although it is not usual to find hurricanes blowing simultaneously in latitudes not far distant, still it sometimes occurs, and rotary storms have been met with following each other, and even overtaking one another, within a very short interval of time. The consequence of the convergence of the lines of longitude will lead storms, widely separated at their commencement, to approximate as they recede from the equator; and the increased dilatation of the whirl-storm in high latitudes tends to the same result. Bearing in mind the principles laid down, it will be readily understood how storms will either neutralise each other on coming in contact, or modify the force of one of the gales; and this result will follow whether the hurricanes are moving on the same or different parallels of longitude.



If upon the same parallels, the vanguard circles of the second storm will neutralise the rearward circles of the first, if upon different parallels, the right-hand semicircle of the one will interfere with the left-hand semicircle of the other rotary gale—the wind in all these cases rotating in opposite directions. This will be understood by referring to the annexed diagram.

Turning to the records of remarkable storms which have blown across our islands, by far the most awful was the *great storm* of 1703. Originating, probably, in the vast inland seas embasined by the mountains, and overhung by primeval forests, or over an unpeopled district of North America, it reached the eastern part of that continent, thence it swept the Atlantic Ocean, and increasing in fury, passed over Britain; it crossed France, Holland, Germany, Sweden, the Baltic Sea, Russia, and a great part of Tartary, until it was lost in the Northern Ocean, returning probably to the spot whence it came, thus making a circuit of the globe. It raged with greatest violence on the 27th of November, Old Style—that is, 8th December of our reckoning. The day previous, the wind blew hard from the south-west, and during the continuance of the hurricane veered by west towards the north, when it again shifted to southwards. Though its fury was confined to less than a day and night, a week passed before the stormy winds which heralded and followed this devastating tempest

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were lulled to rest, during the whole of which time the force of the wind was that of a strong gale. The destruction by this storm was incalculable. In this country alone, the loss of property was estimated at above four millions sterling. More than a hundred persons lost their lives on land, and 8000 seamen found a watery grave. The Eddystone Lighthouse was swept away, and, by a singular coincidence, Winstanley the architect—who was wont to boast of its stability, and to say he only wished to be in it when it blew a storm—was that night an inmate, and with the fabric perished. In the royal navy twelve ships were cast away, mounting 524 guns, and numbering 1600 men. Faintly to illustrate the impetuosity of the storm, a vessel laden with tin slipped from her moorings off Falmouth, and sped before the gale to the Isle of Wight, at the rate of more than thirty miles an hour.

A rotary gale of great violence visited the shores of England on the 5th December 1822; and another of similar character on the 3d of December in the following year. Upon the 29th of November 1836 a very remarkable hurricane blew in this country. It began on the 23d, off the coast of Newfoundland, reaching Land's End upon the day mentioned at 7.75 P.M.; it blew at Plymouth at 8.5, at Exeter at 9.5, at Poole at 10.5, at Farnham at noon, at London half an hour later; crossing to the continent, it reached Düsseldorf at 2 P.M., Berlin at 6, and Königsberg at 9 o'clock, being lost in Lithuania. The progression of this hurricane was about fifty miles an hour, and the velocity of the wind in the whirl was estimated at 135 miles in the same time. The barometer stood at 29.30 inches at 9 A.M. at London; at noon it fell to 28.82; and by 2 P.M. it had risen to 29.35.

The remarkable storms of November 1838, so well described by Mr Milne,* occupy a prominent place in this chapter. The first of these gales blew upon the 26th, and had its track to the west of Ireland; the second, which was much more severe, passed between Great Britain and Ireland, and crossed Scotland obliquely in a north-easterly direction. It began upon the 28th, but moving much more rapidly than the other, it overtook it in its course about the north of Ireland and S.W. of Scotland, the two neutralising one another to a certain extent at the place of junction; but the latter being the more violent, obtained the mastery. In the southern parts of the kingdom there were distinct indicia of a double storm, each having its own period of arrival and cessation, with barometric oscillation; whilst towards the north these indications became gradually less distinguishable, and were at length significant of one gale only. The first of these gales was met with on the 21st at Gibraltar, the wind veering to due west at night; on the 23d and 24th it blew in the Bay of Biscay; and on the forenoon of the 26th it impinged on the south coast of Cornwall, causing a gale which drove ships from their moorings. There it blew first at E., in the afternoon it veered to S.E., by 11 P.M. it was S., by noon of the following day it was due west, and in the afternoon it veered to the N.W. Its shifting from east to west, as it advanced northward, occurred in regular succession in different places; and the direction of the storm's centre up the Channel was proved by the fact, that while the wind veered from E. to W. by S. in England, it changed in the contrary direction on the coast

* Transactions of the Royal Society of Edinburgh, vol. xiv. pp. 467-487.

of Ireland. It commenced at Cork about 11 A.M. from S.S.E., reached Dublin about 3.5 P.M., and Farnborough at night—the wind veering from the eastward to north and north-west. It reached Cape Wrath on the morning of the 28th. This tempest travelled northwards at the rate of about ten miles an hour. The fall of the barometer on this occasion was well marked. At Edinburgh it fell to 27.7 inches. For more than a week previous to the 25th, both in this country and over a large portion of the continent, both on sea and land, the weather was frosty, with N.E. winds and a rising barometer—a state of weather well calculated to produce this result. ‘Its fall on the 25th and 26th,’ says Mr Milne, ‘was everywhere rapid; but notwithstanding this, there still prevailed in the lower atmospheric regions of Britain on the 26th, and even on the morning of the 27th November, an easterly wind and severe frost, the well-known concomitants of a high and rising barometer, showing clearly that the upper regions of the atmosphere were in a very different state from those parts contiguous to the earth’s surface.’ Upon the night of the 27th the wind calmed in the south of England, and the barometer rose over the kingdom.

The second storm came also from the southward—probably from Madeira, where a strong gale drove ships from their anchorage. At Lisbon, the same storm blew on the 23d, and at Oporto on the 24th, giving to this tempest a progressive motion of nearly twenty miles an hour: it would reach the British islands on the 28th, and we find that on the morning of that day it set in furiously there—the wind shifting suddenly from a westerly breeze to a strong south-east wind, veering everywhere over the British islands from about S.E. to S.W. It impinged upon the Irish coast near Limerick at 2 A.M., reached Dublin and Liverpool about 1 P.M., Glasgow at 3 P.M., and St Abb’s Head, in the east of Scotland, at 6 P.M. By marking the period of the greatest depression of the mercury at different places, and the exact time of the wind’s changing from S.E. to S.W. or S.S.W. at the same stations, a similar result is obtained as regards the rate at which this hurricane moved. The track lay to the west of Ireland, and the dilatation of the whirl stretched from the middle of the Atlantic to the eastward of Paris.

A terrific hurricane raged upon our coasts upon the 6th—7th of January 1839, moving progressively about E.N.E. over Ireland and Great Britain, till it reached Gottenburg in Sweden. At Liverpool the wind veered from S.E. to S.W., and blew furiously at due west. The mercury fell to 28.29 inches. At Whitehaven the wind changed from S.W. to N.N.W. Many vessels were lost in this tempest, and in the Mersey alone at least one hundred persons found a watery grave. It blew with extraordinary fury over Ireland, in the central parts of which island stormy petrels were found when the wind had lulled to rest. Upon the eastern coast of England the effects of the storm were apparent: there the progress of the tide wave was interrupted, as at Saltmarsh on the Ouse, five miles from the Humber, where the course of the river was dry, and at Gainsborough the *bore* did not appear. At Ostend, on the opposite coast, the reverse of this occurred.

Upon the 28th of February 1849, another rotary gale visited our island, its track being up the Irish Channel and across the south of Scotland, to the N.E. At Edinburgh the wind veered gradually from S.S.E. to S., S.W., W., and passed off at N.W. An extraordinary rise of the barometer, fol-

lowed by a sudden and great depression at Greenwich, was the precursor of this storm, the violence of which produced a horizontal pressure of twenty lbs. upon the square foot.

The last of the rotary gales which we shall notice, is the one which visited us upon the 5th—6th of February last year (1850). Its fury must be in the remembrance of all. In Liverpool, where we witnessed its effects, its violence was very great, causing the houses to tremble to their foundations, and leading to sad disasters at sea. It set in from the S.W. with a rapidly-declining barometer, gradually veering to the west, from which quarter its force was most terrific, and passing off towards morning in the N.W. The centre-path of this gale must have been in the Atlantic, considerably west of Ireland, and its track directed towards Scandinavia; consequently we were in the south-east segment of the whirl.

Passing to the fourteenth chapter, we find some good directions for sailing in these rotary gales on North Atlantic voyages. If the storm should be traversing Great Britain, it is clear that the vanguard segment gives a south-easterly and southerly wind, while the other half of the storm gives a westerly and north-westerly wind. If the ship has left port, and is overtaken by the tempest, she must either avail herself promptly of the veering of the wind to pursue her voyage, and clear the land, or lie-to till the gale has passed. If the wind be south-east, and the mercury falling, westerly winds will soon set in, and a ship in port on our eastern coast would soon encounter boisterous weather if she started on her voyage. On the other hand, if, on leaving the English Channel, south-west winds veering to west set in, the gale will soon moderate, and render it unnecessary to return to the port.

By studying the law of storms, and taking advantage of the wind as it hauls round, the passage across the Atlantic may be considerably shortened. On the other hand, by want of knowledge of these laws, the voyage may be protracted, and fraught with danger to ship and crew. Should a rotary gale be blowing up the Atlantic from the tropics, the advantage of the veering of the wind and sailing in curved courses will be greatest to vessels leaving the American port, for they will then fall in with the southern segment of the whirlstorm—the wind blowing from the north, north-west, west, and south-west, upon the larboard side. With ships bound for America the case is very different, for, sailing before the wind, they cross the storm's track in front of the vortex.

Our space forbids that we should notice the fifteenth chapter, on the 'Gales of High Southern Latitudes,' and the concluding chapter must be passed over in silence for a similar reason. There are two passages, however, which we cannot omit calling attention to—the one referring to 'the impolicy as well as inhumanity of, sending ships to sea too deeply laden. The overloaded ship, which cannot rise upon the waves in a storm, is in danger of being struck by a weight of many tons of water. Her seams open by degrees. As she becomes leaky she sinks deeper in the water, and then the difficulty of standing to the pumps increases. If the cargo be of greater specific gravity than sea-water, when the ship fills she must go down.' Let the owners of our merchant-marine attend to this. The other regards the importance of the barometer, not only at sea, but in our fishing-

villages. 'It is impossible,' says our author, 'to overrate the value to the seaman of an instrument which will inform him of the changes in the atmospheric pressure over the place of his ship. The barometer is a measure of the atmospheric pressure, and should be regarded as nothing more. But that most valuable instrument has been brought into disrepute with many persons by the makers themselves, from their practice of marking on the face of the instrument indications of the weather not strictly correct. If the index of the barometer were simply divided into inches and parts of inches, the public generally would soon acquire the knowledge of how the instrument measures atmospheric pressure, and how that knowledge assists in forming a judgment on what will be the probable state of the weather.' Alas, the evil which has been inflicted by him who first adopted these arbitrary expressions!

On the cause of storms, we would, with Colonel Reid, in the present state of our knowledge, be silent. The opinion of Espy, that it arises from an ascending current caused by the disengagement of latent heat, and consequent rarefaction of the atmosphere, may be correct, but certainly it does not explain the ordinary phenomena. The hypothesis of Dove, that it arises from the eddy of conflicting winds, is much more plausible, especially when we link with it the suggestion of Sir John Herschel, that there may be a premature diversion downwards of that aerial stream which floats in the higher regions of the atmosphere, from the equator to the poles. Mr Thom has spoken of winds oppositely electrified, but we know not exactly whether electricity is not induced by the friction of the aerial particles, and becomes the consequence rather than the cause.

SANTILLIAN'S CHOICE.

I.

TWENTY years ago, the little town of Wellingford was quite a summer morning's journey from the great metropolis, and it was the dullest, most monotonous, or at anyrate the least interesting of all the innumerable race of little towns. Close on the outskirts ran the high road to the coast and the continent, though Wellingford itself was seldom tarried in, or even looked at by the passing traveller. *Now* that thoroughfare almost resembles one of the old green by-lanes, so grass-grown it has become; for a railway has brought the quiet town within a mere step of its huge neighbour, taken away the traffic from the ancient road, which in primitive days looked like a smooth, well-ordered bowling-green, while a gay 'station' has changed the whole aspect of affairs at Wellingford. No fear of its being identified *now*!

A row of small suburban tenements facing the highway, and bordered by front courts a few paces square, wherein dust in dry weather and snails in wet seemed to congregate abundantly, have disappeared to make room for the iron way; but ere that was projected, or even thought of, in one of these humble domiciles resided the individuals whose fortunes we are now about to follow.

Mrs Mertoun, a widow lady, had resided here for ten years with an Irish domestic, who, in spite of her mistress's reduced circumstances, had clung to her with tenacious attachment. There was another member of the family, however, by no means the least important; and this may readily be imagined when it is stated that Rosamond Mertoun, the individual in question, was an only child, and, moreover, an extremely beautiful girl of eighteen, who had left a fashionable boarding-school at the west end of London but a few months previously, and now pined away her existence in the suburbs of Wellingford.

Why Mrs Mertoun had settled herself down in such a place was a mystery to most persons who knew anything concerning her former history, nor could she herself have satisfactorily solved the inquiry; the sole mystery of the case, however, consisting in her own supineness and want of judgment, coupled with scanty means, which prevented an easy removal. It was true, indeed, that Abbot's Hall was in the vicinity, the proprietor

being an early friend of the deceased Mr Mertoun; and it was natural that his widow should seek the neighbourhood of former influential associates. But the Leslies continued to reside abroad; and when, after a lapse of time, they returned to the Hall, poor Mrs Mertoun found, to her dismay, that Mrs Leslie no longer extended the cordial hand of greeting as to an equal, but assumed a patronage which the widow could but ill endure. For her daughter's sake, she endeavoured to conceal her chagrin; she knew the Leslies were the only introduction into decent society (or what *she* deemed such) which she could look to for Rosamond; the Miss Leslies were plain, but good-natured amiable young women, and Mr Leslie was fatherly and benevolent; so that custom rendered it less irksome to succumb to Mrs Leslie's 'airs and graces.' It is probable that the high-spirited, romantic Rosamond would not have tolerated these impertinences with her mother's humbled or philosophic spirit; but just before her final return home from school Mrs Leslie was 'gathered to her fathers.' The usual routine of hospitalities and festivities at Abbot's Hall was of course arrested during the season of mourning, and Rosamond had plenty of time to indulge her ambitious aspirations and poetic reveries, unbroken save by the rolling equipages which dashed by on their onward route, and after which Rosamond often gazed with bitter sighs, comparing the fate of the luxurious travellers with her own.

'Oh, mother,' she exclaimed, 'are we for ever to be buried in this dreadful place, where there is not a soul save the stupid apothecary and his wife to speak to? How do you imagine your hopes for me can ever be realised if we continue thus?'

'Wait a while patiently, my darling,' replied Mrs Mertoun; 'there will be an influx of visitors by and by at the Hall, and you know the Miss Leslies are very fond of you, Rosamond, and are good-natured girls if you don't interfere with them; and of course you will take care not to do so—in the matrimonial way I mean, my dear,' added Mrs Mertoun with a cautious and serious look and tone, as if promulgating some sage and well-digested admonition.

But to understand how earnest and deeply-rooted were the hopes and anxieties hinted at by mother and daughter, it is necessary to retrace, however slightly, the past. Mrs Mertoun was the descendant of an impoverished younger branch of a noble Irish family; her beauty and grace had captivated Mr Mertoun, one of our merchant-princes, apparently secure in wealth, and engaged in dazzling speculations. At the time of their marriage, the Irish belle was past the first spring of youth, though her charms were in full lustre, and for some few fleeting years she enjoyed the prize for which she had pined during her whole lifetime—that prize being lavish wealth—succeeding the privations and poverty which were her family inheritance. Mrs Mertoun had been taught to consider gold an idol—as the 'one thing needful:' without it was misery—with it, happiness. Her dreams and desires were permitted indulgence for a brief space, only to make the downfall more terrible. She revelled in luxuries of all kinds abroad and at home, entertaining lavishly the gay and distinguished, who were willing enough to avail themselves of the rich merchant's good things. It was a short-lived triumph; unexpected embarrassments and a dismal crash succeeded; and it was rumoured that the unfortunate speculator had destroyed himself in

a fit of frenzied despair. His affairs were frightfully and inextricably involved, and his widow was left with only a small life-annuity for the support of herself and her child. The shock was too severe for Mrs Mertoun; the fall from the height of splendour—from a lot so brilliant and captivating—to the depth of obscurity again, was more than her weak mind could endure, and for many weeks the unhappy lady hovered between life and death in the paroxysms of delirium. A strong constitution overcame the worst ravages of disease; she arose from a sick couch corporeally uninjured, but with her intellectual perceptions concentrated on one sole topic—riches—their loss, their acquirement; in short, every phase in which they could be viewed. Her little daughter Rosamond gave promise of future loveliness in no ordinary degree, and to secure for her a polished education became the first object of Mrs Mertoun's life. A lady to whom she had been known during her days of transient prosperity consented to receive the child at rather a lower rate than other pupils, and Mrs Mertoun settled herself down at Wellingford, again to dream of a bright future through that lovely child, whom she inoculated during the long vacations when they were together with her own sentiments—detestation of poverty in every shape, and its attendant ills—with a hope, which increased with the young girl's growth, of releasing her mother and herself from its hateful bondage by means of a wealthy marriage. For this alone Rosamond was taught to value her personal attractions; beauty was her only dowry; through its means she was to attain the glorious summit from which her mother had been hurled! *She* never indulged visions, like other girls, of disinterested love and devotion. No; Rosamond Mertoun thought of matrimony as the sole escape from the dreadful ills of her present lot. The future bridegroom she never pictured to herself—she saw only heaps of gold! Yet was there a vein of romance—it may scarcely be termed poetry—mingling with these sordid dreams: she felt sure that her gratitude and affection must necessarily be excited towards the husband in perspective who was to raise her to the pinnacle of earthly happiness, even were he old and ugly. It was not the charms of the Opera, or the gay fêtes she heard so much of from school companions; it was not the delight of being whirled along in a cushioned chariot behind four flying steeds; it was not even the diamonds and the satin sheen she coveted: but it was the total escape from all the commonplaces of daily existence—those vulgar matter-of-fact contacts which poison the atmosphere of flowers, and music, and refinement. Butchers, and bakers, and such horrid folk, spoiled the poetry of life in the fair young Rosamond's estimation: the very knowledge of their necessity unfitted the mind for fairyland. And oh! would not she render life one continued dream of bliss through the help of that golden talisman to come?

Trials and privations might be all very well to read of in books, or to see represented on the stage, from the hermit in his cell down to the poor seamstress toiling for daily bread; but oh, preserve her, thought Rosamond, from the dreary monotony of an existence, where, if hunger is unfelt, all finer sense of enjoyment is unknown!

The satisfied mother had thoroughly imbued her daughter with these and such-like opinions; hence it may readily be surmised that religious teaching was unknown—not that Mrs Mertoun considered herself lax in serious matters, but the precept of a 'daily cross,' in which is exemplified the real

poetry of human life, when that cross is borne with a meek, cheerful, and uncomplaining spirit—of this the pupil, so apt in worldly lore, knew nothing. She had not been taught that a heroine's heart may beat beneath folds of coarse texture, soiled and worn with honest labour though they be; while a smile on the lip chases away a tear from the heavy eye, accustomed to gaze only on scenes of penury and want. Rosamond Mertoun could not enter the cottages of the poor; she was wont to say, they harrowed her feelings because she could not give the poor *all* they required; so she withheld what she had in her power to give—time and sympathy; and remained at home twanging her guitar, and studying the annuals, books of beauty, and French romances.

Could it be that she had a hard heart—she whom fictitious woes caused to shed abundant tears?—and who had resolved that when it was in her power she would send her almoner to relieve all the real ones within reach? Could it be that she was selfish when her affection towards her parent was so strongly developed?—for Rosamond cheated herself into the belief, that it was for that dear mother's sake principally she yearned for the realisation of those hopes in which she had been nurtured.

Ah! these are difficult questions, and require subtle and delicate handling, when faults such as Rosamond Mertoun's are surrounded and veiled by the dazzling adjuncts of youth, beauty, and fascination of manner.

II.

'Tis a long lane that has no turning, miss,' exclaimed Dona, the old Irish domestic, observing Rosamond one morning at the little parlour window in an unusually desponding mood, screened by the flowers arranged outside, and gazing with deep sighs after a splendid travelling equipage which had tarried opposite Mrs Mertoun's dwelling for a few minutes to arrange the harness. The postboys were decorated with wedding-favours, and the bride and bridegroom within looked supremely contented and happy. 'She is not fairer than I,' was the thought that passed through Rosamond's mind, but found no utterance: 'perhaps she is penniless too; but then she was not shut out from the world like me, or this fortunate destiny had not been hers!' Dona heard the sigh, and instinctively guessed her young lady's cogitations, commencing an attempt at consolation as already recorded; 'And in my tea-cup this very blessed day,' she continued, 'I give you my word, miss, that I saw a great party—and not far off neither; and Mrs Simpkin (the housekeeper at Abbot's Hall) tell'd me t'other day, that as her lady has been dead more nor these fifteen months, she was sure there was a-going to be a dance, or a somewhat o' that sort, to keep Miss Julia's birthday; and the Lady Howards are a-coming to stay at the Hall; and they be such merry souls, that, depend on it, miss, there'll be gay doings. So cheer up, Miss Rosy; I know there's som't good in store; and I shall see you go off some fine summer morning in a coach-and-four, for all the world like that pretty young soul just passed by.'

Old Dona's words were so far prophetic, that shortly after Mrs Mertoun and her daughter received an invitation to Abbot's Hall, to celebrate the birthday of Miss Julia Leslie, the youngest daughter. There was a great deal of company in the house; and the Lady Howards, 'the merry

souls,' were there, accompanied by a cousin, a young West Indian, whose marked and enthusiastic admiration of Rosamond Mertoun during the whole of the festive evening threw her mother into a flutter of delighted excitement; for Miss Julia had whispered in Mrs Mertoun's ear that 'Emma Howard had told her their cousin, Sidney Santillian, was enormously wealthy, and quite a safe partner.' Talismanic words!

* Mrs Mertoun cared not that her daughter's partner was handsome and graceful; she was only aware that his fine dark eyes rested with the most ardent expression on the lovely girl—it was evidently a case of love at first sight. Santillian danced with Rosamond only, but with her more frequently than strict etiquette permitted. Never hitherto had her beauty appeared so dazzling, or her animation so captivating, while it seemed quite natural that chivalrous homage should be offered to the belle of the fête; but it somewhat puzzled Mrs Mertoun that the four Miss Leslies took Santillian's dereliction so easily. She knew that they were on the look-out for 'eligible matches' for themselves; but though they laughed with and talked to Santillian, as to an especial favourite, there was a carelessness in their demeanour which forcibly expressed that the case was hopeless in this quarter. Young, handsome, and 'enormously wealthy,' thought Mrs Mertoun; and yet the Miss Leslies not striving to effect a conquest! It was very odd—and the mystery must be solved; so Mrs Mertoun betook herself to the Lady Howards, the merry souls of two-score-and-ten, whose kindness won all hearts. They complimented Mrs Mertoun on her daughter's beauty and charming manners—adding, as the mother's glances followed Rosamond and Santillian with some anxiety, 'Oh! don't mind the nonsense of the young folks; Cousin Sidney is a very safe partner, we assure you—nobody minds him of course.' Now, why 'nobody should mind him,' Mrs Mertoun could not comprehend; for Cousin Sidney seemed an unlikely person not to be '*minuted*' by any young lady. All at once it struck her that perhaps Santillian was married, though certainly, if he was, he carried things too far; so she, in a careless manner, asked Lady Howard if her cousin was a Benedict? The question seemed to cause much merriment to the pleasant ladies, who, replying in a breath, 'Not yet—not yet!' beckoned Santillian to their side, and repeated it to him, introducing him to Mrs Mertoun at the same time. A curious change passed over Santillian's expressive countenance—an undefinable change—while a blush was visible actually through his swarthy complexion as he stammered out some awkward sentences, meant to be jocose. At that moment Rosamond, who had been talking to Julia Leslie, approached, and with pretty childish impatience taxed her partner with desertion and loss of places in the dance. Sunshine does not chase away shadow more charmingly than did Santillian's face light up when he beheld her: he took her willing hand, and they bounded off together, the most perfect contrast of masculine and feminine beauty it is possible to imagine.

'Dear Sidney!' exclaimed Lady Emma Howard, 'he is the most impetuous of human beings—impetuosity is his characteristic, though a more generous affectionate-hearted fellow does not exist. Dear Sidney! he is enslaved by female beauty; but it is an excusable weakness; and when he is fairly settled, all these ebullitions will pass away: his wife will be a fortunate woman.'

All this Mrs Mertoun heard with a deep interest, veiled beneath a careless exterior. 'He was easily enslaved by female beauty,' she repeated to herself; and oh that she could close the net around him, and secure him for ever in its meshes! Santillian was a prize beyond her most sanguine hopes, and when he came and sat down by her, and talked about Rosamond, the mother could scarcely conceal her delight and agitation.

When alone once more, Rosamond threw herself on Mrs Mertoun's bosom, and wept hysterically; the reaction had come, the faded flowers were cast aside, the golden tresses bound up, and the humble couch arranged for the wearied beauty. 'Oh mamma!' she exclaimed, 'I am almost sorry that he is so rich; it seems a profanation to think of money when with *him*!'

'Who, my dear?' asked Mrs Mertoun with affected simplicity. 'Who are you speaking of, Rosamond?'

'Mamma, dear,' replied her daughter in a deprecatory tone, 'is it possible you do not know? Santillian will be here to-morrow morning, for he whispered so to me; and let us forget his wealth, mamma, for he is all in all for himself alone! Oh mamma, you cannot imagine how one evening has made us acquainted with each other! Santillian told me that he had never realised perfect female loveliness till we met, and he said far more than *that*, mamma. Oh, am I not a fortunate girl?'

Was this a case of first love at first sight also on Rosamond's side, and did she *really* forget Santillian's thousands? She felt flattered, gratified, elated by his marked admiration and preference. She in return admired him exceedingly: he was full of passion and spirit. Swayed by impulse Santillian assuredly was, and he had often been led into error thereby—not stopping to consider if the impulse were good or evil. Now he was led a willing captive, fascinated and enthralled; he seemed powerless to break the chain which more and more surely bound him every day: he existed but in Rosamond's presence; her beauty intoxicated him, until the dangerous spell obtained such complete mastery, that words were spoken from which in honour he could not recede. Yet was his demeanour not like that of a fortunate lover: fits of restlessness, gloom, even despair, were frequent in recurrence, though not long in continuance, for Rosamond's smiles invariably exorcised the evil spirit, even as music chased the dark hour of the Israelitish king.

The Lady Howards had returned home, and left Santillian at Abbot's Hall; the Miss Leslies were engaged in affairs of their own—the eldest was on the point of marriage, and they none of them gave the least heed to Santillian's proceedings; possibly were ignorant that his hours of absence were passed at Mrs Mertoun's. But the time of separation approached. The Leslies, after the marriage, were all to depart for the continent, and yet Santillian lingered; and still the definite final avowal was not made—to claim Rosamond as his future wife! Yes, he lingered, and his heart was on his lips; she *knew* he loved her passionately, for what woman does not speedily gain this knowledge? But there was some dark shadow between them which ever seemed to intervene when he was about to speak, and he left Abbot's Hall suddenly, merely sending a cold note to Mrs Mertoun by way of farewell, and apology for not making personal adieux. He was gone; Caroline Leslie was married; and Abbot's Hall left in solitude and silence.

Following that interval of excitement and anticipation came those hours, days, and weeks of inactivity and suspense, which are more intolerable than the keenest recognised sorrow, and when the strongest powers of endurance and patience are taxed to the uttermost. Mrs Mertoun was angry and tearful by turns; she declared that Santillian had behaved shamefully, and that could she find any reasonable pretext for visiting the Lady Howards she would assuredly do so. But the Grange was fifteen miles from Wellingford, and what had she to say when there, except to inquire after Mr Santillian, and to tell the Lady Howards how cruelly he had treated her daughter! 'But after all,' thought Mrs Mertoun, 'may he not merely have been amusing himself with a pretty girl, considering his propensity for flirtation; and may not the Lady Howards merely laugh at me for my pains, and think me presumptuous and silly?'

Besides, when Mrs Mertoun hinted at such a proceeding to Rosamond, the latter indignantly discountenanced it. Follow Santillian when he had quitted her thus? Never! Her womanly spirit forbade such an idea; and beseeching her incensed parent not to allude to the subject again, the name of Santillian was tacitly avoided between them. Mrs Mertoun, however, anxiously watched her daughter's pale cheek and heavy eye; for she feared lest Rosamond's disappointment was a more serious one than she had at first surmised—that it was not only wounded vanity, but a wounded heart, and that they had been tampering with edge-tools for Mr Santillian's heartless gratification.

But Mrs Mertoun was mistaken, or rather the case was reversed—Santillian *was* in earnest, poor fellow: he loved Rosamond with all the fervour of which his nature was capable, though he had torn himself away with such apparent carelessness. But though Rosamond's disappointment was a bitter one, it was merely the disappointment of a woman whose hopes of future aggrandisement are frustrated. It is true, she really liked and admired Santillian, and her vanity was hurt by his desertion; but hers was not the pure and devoted affection which implies total forgetfulness of self, nor did she ever cease to lament the fact, that the lost Santillian was wealthy, even while disavowing such sordid regrets to her mother. Perhaps the inmost depths of her heart responded not to the gay West Indian's elegant badinage; perhaps those intellectual charms which alone can touch the romantic or poetical fancy, and bind and rivet the chain for ever, were wanting in Santillian. Be that as it may, whether she was capable of intense emotion or not, it was certain that *he* had not aroused it; and Mrs Mertoun became consoled when she found Rosamond an interested listener to her discussions concerning a change of scene to some cheerful watering-place, and how they could manage the desirable transit on their slender income. To leave Wellingford was now Mrs Mertoun's fixed resolution—no longer must Rosamond's beauty be hidden in obscurity: there were other Santillians to be found, less flighty and less faithless. Still there was a secret pang at the fair girl's heart; her mother wrathfully affirmed that she had been made a plaything of—a toy of an idle hour! cast aside when the novelty wore off! But Rosamond believed otherwise; she still thought that Santillian had been in earnest. She recalled his restlessness, his moods of abstraction and despondency, and she felt sure that some obstacle existed unknown to them, and which perhaps they might never know, to prevent

his making her his wife. In this conviction Rosamond found a balm to soothe and sustain her under what was doubtless a heavy trial. She tried to conceal any trace of regret from her mother, whose prying eyes seemed to pity her—and even from that dear being *pity* was not to be borne; but often, when no human eye observed, she gave way to the luxury of unrestrained tears. It was very hard to have lost Santillian; it was very hard to have missed such a brilliant lot; and she really liked him too! It was not probable that twice in life such a chance would fall in her way.

The autumnal moon in full glory was rising majestically above the dark tree-tops, the rays illuminating the little parlour, as they broke through the interlacing plants on the window-sill; Rosamond was there alone, her face buried on her arms, which were crossed on the table, while over them flowed her redundant hair in clustering curls, now somewhat dishevelled and uncared for. Beside her lay the guitar and loose music scattered around; but her attitude betokened an abandonment to grief surely most flattering to an absent lover. The door of the apartment opened gently, a footstep was heard, and Santillian stood beside her; he had entered the house unannounced by Dona, who was at the gate gossiping with a neighbour. In a few brief moments how were the world and its aspects changed to Rosamond Mertoun! Incoherent words were spoken by Santillian as he knelt beside her, clasping her hands in his own, and covering them with kisses. She was to be his bride then! He was faithful, and he had returned to claim her. Generous and careless of wealth himself, no suspicion entered Santillian's mind that the fair girl had accorded such evident preference save from the most disinterested affection towards himself. No explanation was asked or given, yet he looked haggard, as if he had lately undergone some violent inward struggle; but when Mrs Mertoun remarked the alteration in his appearance, he laughed gaily, and assured her that he had been deliberating ere he could finally make up his mind to become 'Benedict the married man.' But when he found that life's happiness was at stake, that longer absence was unendurable, he had come to plead forgiveness for demur! Santillian's cousins at the Grange had joined the Leslies abroad, so the lover divided his time between Wellingford and the metropolis, where he had arrangements to make prior to his marriage: this he urged should be solemnised with as little delay as possible; but lawyers are proverbially tardy in such cases, and marriage-settlements are most unromantic things. Happy Mrs Mertoun, how important and active a personage she was! seldom are such dreams as hers permitted realisation. At times she could scarcely credit the truth, and she was as anxious the marriage should take place as Santillian himself; for until it *had*, she lived in a constant indefinable apprehension that such good fortune would vanish into air, the mere phantasmagoria of her brain.

'I have a presentiment, my dear child, that I shall never live to see you Santillian's wife!' said Mrs Mertoun to Rosamond.

'Why, mamma dear,' replied her daughter, 'our wedding-day is only a fortnight off. You are nervous and jaded with all this flurry for me, and you must keep yourself quiet, or I must defer it a while longer.'

'Defer it!' absolutely screamed Mrs Mertoun—'defer it, my dear!

SANTILLIAN'S CHOICE.

Don't talk in such an absurd strain. Heaven only knows that your marriage may be deferred without any seeking of yours!'

Next day Santillian arrived from London as fast as four foaming horses could bring him. He was in a state of fearful excitement, for ruin impended unless he instantly attended to his agent's summons, and set off in person for his West Indian estates. He earnestly pleaded for an immediate union with Rosamond; but to this Mrs Mertoun would not consent, the settlements were not ready, and she, as her poor daughter's only natural guardian, must carefully shield her from any possible contingency or future risk. In this view Santillian acquiesced; he tore himself away from his beloved, half-wild and broken-hearted, not heeding her whispered words of comfort—'A few months Santillian will soon pass away. Your absence will not be for long.'

That night Mrs Mertoun said with a solemn air to the faithful Dona—'If we were at O'Connor, I should expect to hear the banshee, Dona, for this foreboding is gnawing at my heart, that I shall not live to see my child the wife of Santillian, or to witness his return!'

'Ay, the banshee o' the O'Connors is a weird kind o' shadow, my dear lady, and your race have always been favoured with a sort o' second-sight,' responded the old crone, as Mrs Mertoun silently listened to this Job's comfort, murmuring to herself—'The banshee's shadow is on my spirit; I cannot fling it off!'

III.

Six weeks after Santillian's departure Mrs Mertoun was found dead in her bed. The doctor said that, from the nature of an inward complaint under which she had laboured for many years, he was fully prepared for this termination.

'But my poor dear young lady and me were not!' sobbed the stricken Dona; 'and I call it downright wicked in the doctors to keep those most consarned in the dark.'

'Had I informed Mrs Mertoun of her condition,' replied the medical attendant softly, 'it might have alarmed her, and perhaps hastened the event we wished to ward off; and why excite useless fears in relatives and friends? Be comforted in the belief that your dear lady's end was free from suffering.'

We may not raise the veil which shrouds the sacred sorrow of a child mourning for a beloved parent. The stern necessities of life awoke Rosamond Mertoun from an indulgence in grief to the first bitter experience of the real woes to which poverty is heir. She knew not how to provide for future subsistence. Dona and herself might want bread, for Mrs Mertoun's income had died with her. Rosamond had not yet summoned strength of nerve to open any of her departed mother's papers; but at the earnest suggestion of Mr Anderson the doctor—that 'stupid apothecary,' once referred to by Rosamond, but who proved a valuable friend to the orphan in her distress—she at length found resolution to examine them. There was a letter addressed by Mrs Mertoun to her daughter, not to be opened until the writer was no more: the purport of it was, that in the event of

Rosamond being left destitute and unprotected, she was immediately to apply to Mr Ephraim, the earliest and dearest friend of the late Mr Mertoun. That unfortunate gentleman had indited his wishes to a similar effect in a paper inscribed to his wife but a few days prior to his melancholy end, and which Rosamond found enclosed in the one addressed by her mother to herself. By Mr Anderson's advice, these two precious documents were forwarded to Mr Ephraim, who resided in North Wales, Rosamond adding a touching little billet of her own, stating her engagement to Santillian, and that it was only a temporary shelter she hoped to need, until her betrothed husband returned to claim her. She had often heard her mother speak of the Ephraims as eccentric but excellent people, though no correspondence passed between them except at intervals, when Mr Ephraim sent a bank-note for 'Rosamond's use,' and Mrs Mertoun thankfully acknowledged its receipt and the half dozen stiff lines accompanying it.

In due time the reply to Rosamond's letter arrived, written in a clear formal hand, but couched in kind terms, by Mr Ephraim, who gave her a cordial welcome to Talissen for so long as she liked to make it her home, seconded, he assured her, by Mrs Ephraim, but, in conclusion, giving her notice that they were very 'plain folks,' and their mode of living primitive, as befitted the rural locality and mountain solitudes where they abode.

Mr Anderson said it was a good honest letter, and he was greatly satisfied with Mr Ephraim's unpretending solicitude and sympathy. Under the worthy doctor's management every necessary arrangement was completed for the helpless girl, the furniture of the cottage sold, and Dona taken as a nurse for the tribe of chubby-faced Andersons. After defraying all debts and expenses, it was found that scarcely a sufficient surplus remained to convey Rosamond on her journey to Wales, on the borders of which Mr Ephraim himself was to meet her, and convey his fair charge in safety to Talissen. Santillian was detained, and his letters expressed the utmost chagrin and impatience; but there was no immediate prospect of his being able to absent himself, and he was endeavouring to effect a sale of property, which would release him from such disagreeable responsibilities for the future. So Rosamond bade adieu to Wellingford and poor old Dona, with an assurance to the attached creature that the moment she had a home of her own Dona should be reinstated therein.

'Ah, I did not expect to weep when I turned my back on this dull town!' ejaculated Rosamond: 'my mother sleeping in the churchyard, and a stage-coach bearing me away alone and in this garb of wo, instead of happy beaming smiles amid the ringing of festal bells and the glitter of bridal pomp as Santillian's bride!'

Mr Ephraim met Miss Mertoun at the appointed stage, and greeted her with cordial and fatherly kindness. He was a tall, portly man, in the prime of life, with a serious visage, which seemed to indicate that business of vast importance occupied the owner's brain. He wore a broad-brimmed hat of clerical construction, and his habiliments were black, and of antiquated fashion—something in the Quaker style. He was perfectly bald, and had a habit of gazing upwards, and muttering to himself the while, which strangers mistook for an indication that he was engaged in devout aspirations. On arriving at Talissen, this mistake, in which Rosamond

shared, was dispelled, and Mr Ephraim's avocations speedily discovered; for though engrossed in heavenly contemplation, it was not of the sort which she had at first supposed. Mr Ephraim was devoted to the study of astronomy; he had built an observatory on a height adjacent to his dwelling, and, ensconced there, night after night, day after day, he forgot all sublunary affairs, and too often forgot even he had a wife whose lonely hours were uncheered by companionship, unblest by infantile endearments. Mrs Ephraim was a mild, pleasing-looking woman, whose nervous manner evinced a long retirement from the usages of mixed society; patience and resignation were stamped in unmistakable characters on her sweet countenance, and her attire was exquisitely neat and plain. The home at Talissen was a humble, but thoroughly comfortable one; everything was for use, not for show; here was no one to care for display. A small library of well-used books, collections of minerals and dried flowers, and many other simple details, evidenced how Mrs Ephraim had been accustomed to fill up her time. To the keen reader of human nature perhaps these mute evidences betrayed how bravely she had striven against that hopeless sinking of the heart which a lot such as hers *will* sometimes induce, notwithstanding she clasped her cross in the deepest humility and silence. But to Rosamond's astonishment, another individual appeared domesticated at Talissen—a young lady, whom Mr Ephraim introduced as Miss Lewellyn, his ward, and who, he said, had been their valued guest for the last six months. Warm and tender was the solicitude which Miss Lewellyn exhibited towards the fair stranger, unobtrusively but anxiously demonstrated; she gazed long and earnestly on the beautiful face which was upturned to her own, as she fondly parted Rosamond's silken tresses and kissed her smooth brow. As she did so, Rosamond felt a warm tear trickle down her cheek, and she in her turn more closely observed Miss Lewellyn, who returned her mute observation with a quiet smile, saying in a low voice, 'I hope we shall be loving friends, dear Miss Mertoun, and that you will henceforth call me Ruth, and drop the formal *Miss*, and I will do the same by you, if you wish it.'

Rosamond assured her she did, and yawned at the same time most unpoetically, though, had her thoughts taken the form of words, they would have been expressed somewhat in this manner—'I wonder if I shall like her; she is plain, and yet what large penetrating dark eyes she has, soft and melancholy too sometimes; I suppose she is as poor as I am by her dress, which is horridly coarse; but for all that she is decidedly an elegant person, and wonderfully kind to poor stupid me.' Her unwonted fatigue made rest desirable, and at an early hour of the night Rosamond fell asleep at Talissen, to dream strange wild dreams about Santillian and Ruth Lewellyn.

Mr Ephraim's dwelling was situated about a mile distant from the straggling village of Talissen, whose inhabitants consisted entirely of the poorer class. They had no other neighbours within several miles, and these scantily distributed. But there were sublime mountainous hills in the distance, and delicious valleys close at hand, diversified with wood and water. Rosamond admired picturesque scenes in pictures or engravings, and descanted on works of art very prettily. She had often wished to

be a shepherdess in some Arcadian retreat, crook in hand, and attired in tasteful Swiss costume, where to her lute she might warble pastoral ditties beneath moonlit skies, feeding on honey-dew alone; the sheep being white, fleecy, sensible sheep, giving no trouble; and there being no rough roads, no wet grass, no winter storms! Rosamond could talk charmingly about nature and solitude; but she soon found the monotony of the landscape wearied her; she desired to behold moving objects, and more eagerly every day did she look forward to Santillian's return as the signal for a termination of her banishment, and an introduction to the gay scenes of life.

Most assiduously Ruth Lewellyn sought Rosamond's society, and strove to gain an insight into her character and disposition generally; but there seemed little in common between them as they became better acquainted, for Ruth could not weep with Rosamond over the fictitious woes of her favourite heroines in French novels, nor enthusiastically dilate on second-rate sentimental rhyme, which Rosamond called 'poetical imaginings.' Ruth smiled good-naturedly at all this, but still she laughed, and tried to win her companion to accompany her in her visits to the cottages of the hamlet, to send pious books to the sick, to comfort the afflicted, and to aid the needy; or to assist in teaching a band of little ones, whose schooling depended entirely on such charitable exertions, and whose wardrobes constantly needed replenishing by Ruth's own handiwork. But Rosamond was a bad walker, and as to plain needlework her knowledge only extended to the ornamental departments of that branch of woman's usefulness. She could embroider fine lace or cambric, and manufacture inimitable chains and purses; but as to patching dirty pinafores, or stitching coarse frocks, that was impossible. And yet she saw that Ruth's fingers were as delicately fashioned as her own; but then Ruth was used to it, and perhaps had been brought up to such employment! After one or two attempts to penetrate the interior of the peasant homes, Rosamond declared that such scenes were revolting, and that they made her quite ill and miserable. 'If the poor kept their houses clean, with a few flowers about, for instance, and were clean themselves—water is plentiful enough—and had not such disgusting ways, particularly when they are sick, I think in time I might be inured to them, Ruth. But as it is, the very air we breathe among them is polluted and offensive. I declare I have used a dozen bottles of Eau de Cologne to preserve myself from fainting; and then they are so thankless and ungrateful, always asking for more, never seeming satisfied. No—no; I am convinced that no really refined or poetical mind could condescend without injury to incessant contact with such gross realities. I daresay *you*, Miss Lewellyn, have a singularly strong mind, and it does not hurt you, but I would far rather send what is necessary through a domestic, and leave the poor to themselves. Depend upon it they would like it far better than this constant interference. I could not read a line of poetry for a week, or take up my music after I last went to Talissen with you; I felt quite shocked and horrified.'

Ruth sighed deeply as she listened to this tirade from Rosamond; but knowing that remonstrance or argument was vain when opposed to the effects of education and nurturing, she did not say much in reply; and it was in kindly gentle accents she assured Rosamond that it was of far

more importance to give personal countenance and sympathy than even pecuniary assistance to the humbler classes. 'As to ingratitude,' continued Ruth, 'perhaps we often exact too much from our poorer brethren in return for what it is our privilege and also our bounden duty to do. It would be a sweet task, doubtless, were they all we could wish, but it is for the sake of a Higher we relieve their necessities, and minister to them soul and body: earthly rewards we ought not to look for, but take care not to buoy ourselves up with the fancied sanctity of good works.'

Not quite comprehending Miss Lewellyn's meaning, Rosamond replied with badinage—'You are quite a preacher, Ruth, and I am sure you mean very well, and are very good. But now do tell me how you manage to endure this stupid vegetating life we lead, when you have been accustomed to a gay town like C——? Are you obliged to reside with the Ephraims? and shall you never get away? unless, indeed, you marry somebody; yet I don't know who there is to marry here.'

A strange expression of intense mental agony flitted athwart Ruth Lewellyn's pale countenance, and left it even paler than before, as, in a voice which faltered at first, but gradually became stronger, she said—'Your questions shall be answered, dear Rosamond, so far as I can answer them. First, it is desirable, and I prefer being with the Ephraims until I am of age, which in my case is not until I have attained my twenty-fifth year, and I still want a year of that period. Mr Ephraim is, as you know, my guardian; my other guardian (for, like yourself, I am an orphan), with whom I resided at C——, died, and his daughters went to reside with an aunt. Second, when I am my own mistress legally, I shall still continue to live from choice in a place quite as retired and solitary as this; nay, more so, for Lewellyn is ancient and dilapidated, the resort of owls and bats; but I mean to take up my abode there, as the fabled princesses of old did, protected by all chivalrous knights, giving alms at my gate, and entertaining the wandering harpists blind from age, who still chant the faded glories of Lewellyn.'

Rosamond (on whom a new light had broken, for she had hitherto considered Miss Lewellyn a dependant—her simplicity, humility, and unassuming exterior, having assisted to confirm the mistake) gaily persisted—'But why should you live alone at old Lewellyn? Will you not select a gallant knight from the chivalry of the land, who may have a husband's right to protect so fair a dame? You have not answered me *that*, you cunning Ruth!'

'I never mean to marry, Rosamond Mertoun,' was the quiet and serious answer, while the former flitting expression of anguish chased an attempted smile away.

'Well,' thought Rosamond, 'she *is* interesting after all; and here is a bit of romance at last, notwithstanding she is such a matter-of-fact sober creature! I have no doubt she has been disappointed in love;' and to induce Ruth to bestow *her* confidence, Rosamond confided the tale of her own betrothal, and spoke of Santillian; and that he was soon coming to Talissen, where they were to be wedded—dwelling on brilliant hopes, and happy love! After she had discharged this important pent-up load, suddenly turning to the silent Ruth, who was bending over her work, she added, 'Now, Ruth, I have nothing more to tell! Be fair, and bestow

your confidence in turn on me. Have you ever loved?—and whom?—and are you engaged?’

‘Rosamond Mertoun, you pain me by these questions,’ replied Ruth, looking up from her work with a tranquil but earnest expression; ‘and I am sure you would not willingly do so. Do not let us revert to this topic; I am *not* engaged; but your womanly sense of delicacy and propriety will point out why I decline to answer your other inquiries.’

There was a long pause, and Rosamond felt half offended; for the superiority betrayed in Miss Lewellyn’s manner, gentle and unintentional as it was, yet evincing the dominion of a strong over a weak mind, humbled and annoyed her. Ruth saw the cloud on Rosamond’s beautiful brow; and she broke the awkward silence by smilingly observing, ‘Your intended husband, Mr Santillian, and myself are old acquaintances.’

‘Good gracious!’ exclaimed Rosamond: ‘how odd that you never told me so before!’

‘You never named him to me before, dear Rosamond,’ said Ruth; ‘therefore why should you think it odd?’

‘Well—never mind; but tell me when and where you met Santillian?’ eagerly responded Rosamond.

‘His father and mine were friends; I became an orphan; and Santillian, on his return from the West Indies, used to come to my guardians at C—; and we were for some weeks beneath the same roof together at the Lady Howards.’

There was nothing in these simple words to cause such a flutter in Rosamond’s bosom; but there was a *something* about Ruth Lewellyn as she uttered them which vexed and startled the listener, something involuntary and inexplicable, which conveyed more than words—as if the shadows of the past were conjured up, and shone in her melancholy eyes. Rosamond felt provoked she knew not why. What had Ruth Lewellyn to do with *her* Santillian? She poured forth a volley of hurried questions—such as, ‘Did you like him?—did he like you?—didn’t you admire him excessively?—and how could you help falling in love with him?’

To which Ruth answered with a smile, ‘The Miss Leslies did not “fall in love,” as you term it, with Sidney Santillian, and yet report said they were susceptible damsels.’

‘Ah, that is very true!’ replied Rosamond laughing; ‘though poor dear mamma and I never fathomed the mystery of their indifference towards one so handsome and so—*rich*.’

She hesitated ere pronouncing that word, for Ruth Lewellyn’s eyes were fastened on her—no longer soft melancholy eyes, but penetrative and bewildering. Rosamond’s sank beneath their scrutiny—they had probed her secret, secrets which to her own conscience she would scarcely whisper; and now the tell-tale blushes, do what she would, mounted to her very temples. She began to dislike Ruth most cordially; and so it often is: we love not those who read our weaknesses or sins! To change the subject, she said with affected carelessness, ‘Perhaps you are in the right, Miss Lewellyn, to vow yourself to celibacy, thereby escaping a vast number of cares and anxieties. Look at poor, meek Mrs Ephraim! if she were a woman of spirit, her husband’s neglect would have driven her to desperation, or have broken her heart. Yet the world respects Mr

Ephraim: he is called a moral man, and is often ready to do a kind turn when it does not interfere too much with his selfish pursuits. I believe that some of his beloved stars had gone to bed, or he would not have wasted time in escorting me here, though, to be sure, I have hardly seen him since.'

'Nor have I seen much of my guardian during the six months I have been under his roof; and I agree with you so far, that I think Mrs Ephraim is to be pitied,' said Ruth. 'Twenty years and more have wrought a sad change in her. She was a junior contemporary of the Lady Howards, and they often spoke of her as the wildest, giddiest, most high-spirited girl in the country. But you see, Rosamond, that although she is, or was, what is termed a woman of spirit, she has not been driven either to desperation or died of a broken heart. No: believe me that broken hearts belong more to novels than to real life, for the human heart is a tough thing, and can endure much rough handling ere it even *cracks*; and when it is cracked,' continued Ruth smiling, 'it lasts for common use a long, long time. As for the "desperation" you speak of, how could it find vent? What shelter had Mrs Ephraim to fly to? And if she had, was she to urge her husband's selfishness, and her own solitary lot, as an excuse for trampling on her duty, divine and human? Here it has been Mr Ephraim's will to live, because in Wales living is cheap, and thus he is enabled to spend more on his astronomical buildings, books, and instruments. It is his pleasure, and his wife has vowed obedience. Mr Ephraim is a wise man so far as astronomy is concerned, but there his wisdom ends, and foolishness begins; for he treats not his wife as a companion and friend, one whose wishes and tastes he is bound to consult. She *is* his wife, he possesses authority, and that is all-sufficient. In Mrs Ephraim he won a pearl of price—a warm, pure, and sensitive heart. Could it be laid bare for inspection *now*, what a waste of sweet affections would be traced! Think, Rosamond, what is her hope? How is she sustained and comforted through the dreary years of her childless, blank existence, while uncomplainingly she strives to perform the part of a loved and loving help-meet? What is this hope? Not an earthly one, dear girl. But you will tell me that I am preaching again; and here comes my guardian, with his face in the air and his eyes fixed on the clouds, satisfied with himself and all the world!'

'I'd pull down his observatory, if I were his wife!' exclaimed Rosamond indignantly; 'that I would, and burn all his trumpety calculations into the bargain!'

'No you wouldn't, Rosamond. Wait till you *are* a wife, and you will tell a different story—at least I hope so,' added Ruth impressively.

'Santillian had better not shut me up like poor Mrs Ephraim, or I don't know what I should do—destroy myself, probably,' cried Rosamond.

'But suppose, dear, that after you are married, Santillian was so unfortunate as to become poor, and you were obliged to live in obscurity, privation, and solitude, instead of luxury and society, what would you do in that case?'

'How distressingly you talk, Miss Lewellyn!' ejaculated Rosamond. 'What puts such contingencies into your head? I never contemplated the possibility of such a thing.'

'Yet remember, dear Rosamond, that you take him "for better for worse, for richer for poorer;" and a "dinner of herbs" with true love would be sweet even in a desert: would it not?'

'Pray don't croak so, Miss Lewellyn: you talk of love so poetically, that, despite your cold, nun-like ways, I can imagine you have succumbed to its influence pretty strongly,' said Rosamond with a dash of spite in her tone.

Ruth was silent; but there was a reproachful glance in her dark eyes, mild and affectionate withal, that haunted Rosamond Mertoun long afterwards; and again that night she dreamt strange wild dreams of Santillian and Ruth Lewellyn.

IV.

There was an unusual excitement in the quiet household at Talissen, and even Mr Ephraim crawled forth to observe what was going forward, much in the manner of a snail out of its shell on a sunshiny day. Radiant in smiles and happiness, the beauteous Rosamond was the centre round which all the minor orbs revolved, for Santillian had arrived. He was in London, where he was detained on necessary business, and in a few days he would be at Talissen, to claim his bride: the day following his appearance at Mr Ephraim's the marriage was to take place. Rosamond had fully counted on the assistance of Miss Lewellyn as her bridemaid, and therefore she was not a little chagrined and disappointed on Ruth entering her chamber at an early hour of the morning in travelling costume, and carrying a red morocco case in her hand, saying, with a smiling face, 'I have come to bid you farewell, dearest Rosamond, for I am going to old Lewellyn for a while. My guardian has accorded his permission, for Morgau, the aged housekeeper, has long desired to see me; and I heard yesterday she is fast sinking.'

'But will you not stay, Ruth, and be my bridemaid—be present at my marriage with your former friend Santillian? This is very unkind and strange of you, I must say, to desert us all just now.'

'Nay, nay, say not so, dear Miss Mertoun; indeed I do not mean it so. But I *must* go to Lewellyn, and I absent myself when I shall not be missed. Say no more, dearest Rosamond,' seeing Rosamond about to speak; 'it is unavailing; in a few minutes more I am off. But I have something to give you before we part—perhaps for ever. I have told you that Santillian's father and mine were friends; my mother loved Sidney when he was a mere child. The jewels in this case'—placing the morocco case in Rosamond's hands—'were hers. She always expressed a wish that Sidney Santillian's bride should possess them. Receive them, therefore, from my hands, as *my* marriage-gift to you, fairest Rosamond; they will worthily adorn your faultless form. Sometimes, when you wear them, give a passing thought to your preaching, prim friend; but should reverses come—and whose lot is secure and stable?—then, Rosamond Mertoun, remember the loving heart, the open arms, the unalterable devotion of Ruth Lewellyn.' So saying, Ruth flung her arms round the fair creature, placing Rosamond's head gently on her bosom, and fondly drawing one of the long silken tresses through her fingers, she added—'Dare I ask for this?'

As she was carefully dis severing it, Rosamond opened the case, and on beholding the valuable and dazzling brilliants she exclaimed, 'I cannot accept so magnificent a gift, dear Ruth; indeed I cannot. Santillian, perhaps, would not like me to do so.' This was spoken with some pride. 'Besides,' she continued, more affectionately, 'you may require these splendid gems yourself.'

Impressive and almost solemn was Ruth's reply; not in the words—they were simple enough—but in the manner: 'Tell Sidney Santillian that he complies with the wish of one now an angel in heaven, and for her venerated sake he will not scruple to let you wear these diamonds. For me, I shall never wear jewels more.' And then with a fervent embrace, and a 'God bless and keep you both!' she was gone; and Rosamond heard the wheels rapidly bearing her away.

It was evening when Santillian arrived at Talissen: it was a glorious sunset, and Rosamond waited in a little parlour to receive her lover, which opened on the veranda where he must pass. A half-length portrait, the size of life, of Ruth Lewellyn, hung in this apartment. She was represented in conventual costume; a nun's veil folded across her tranquil Madonna forehead, and a cross elevated in her hands. Rosamond stood beneath this picture, in deep shadow; but the last lingering rays of golden glory fell on the canvas above her, and shone like a halo round the sweet benign countenance, whose eyes seemed to gaze down sorrowfully. As Santillian entered by the glass-door—kind Mrs Ephraim had met him at the garden gate, and led the way—his first glance was caught by the illuminated picture one moment, and he fell a step back with a startled look; in the next, his beautiful betrothed was in his arms—the world forgotten, and all it contained!

The reunited lovers had so much to say to each other, so much to arrange and discuss, past, present, and future, that poor Ruth and her magnificent gift were forgotten; and it was only on Mrs Ephraim's asking Rosamond at supper where the jewel-case should be placed in her packages, that the donor was recalled to her memory.

'Good, kind Ruth; it is just like her!' exclaimed Santillian with a somewhat heightened colour as he viewed the brilliants placed in his hands by Mrs Ephraim: 'she is one of the best creatures in the world certainly!'

'She told me that you and her were old acquaintances, Santillian,' said Rosamond with some pique in her tone; 'but I never could get her to say much about you or past times. She made a sort of mystery about the matter, though not *exactly* that either.'

'Not mystery surely, my beloved girl; there is none whatever; and the less said about past times the better perhaps,' cried Santillian with a smile; 'for Ruth may be cognisant of some of my follies and escapades you know! And prudent wives never ought to inquire what their husbands have been about previous to marriage! Remember this, my darling: but, by the by, I must not forget to exhibit *my* taste in jewellery,' continued Santillian, diverting Rosamond's attention to a richly-embossed casket, which, on being opened, displayed pearls of rare and matchless beauty. 'I know not which will become you best, my lily!' cried the enraptured lover—'the costly brilliant or the chaste pearls; but this I know, that the lovely wearer eclipses them both!'

The marriage morning dawned gloomily, although the preceding evening had promised unusually fine weather; the sky was dull and leaden, and the close heavy atmosphere gave suffocating sensations, as the lowering clouds discharged themselves in a continued, thick, drizzling rain—one of those hopeless set-in rains to which no reasonable termination can be looked for. The village girls, according to Ruth Lewellyn's arrangement, were to have strewn flowers on the pathway leading up to the little ivy-covered church; they essayed to do so, but it was a melancholy attempt; and the feeble chime of bells which struck up in the tottering steeple, after the sacred ceremony was concluded, was not in unison with the weeping scene around. But the bridegroom beheld only his beautiful blushing bride, and she saw in perspective a long vista of bright sunshiny days, and cared not for this sole gloomy one!

During the first year of their marriage, Mr and Mrs Santillian led a comparatively quiet and unostentatious life; even the ambitious aspirations of Rosamond seemed to have settled down into the calm satisfaction of domestic tranquillity, and she avowed herself 'perfectly happy.'

'Perfectly happy!' Rare words! How many inexperienced and thoughtless young creatures, who have given utterance to these words in the fulness of their grateful hearts, have yet instinctively trembled at this brimming over of their cup of bliss—trembled at their own excess of happiness! But Rosamond had no such misgivings; she revelled in the delights and luxuries of her new mode of life, which from earliest childhood she had been taught to covet and aspire to. Her beautiful villa at Twickenham, with its adjuncts of taste and expensive refinement; her unique equipage, her superb personal adornments, her husband's devotion (alas! that *that* should be placed last in the category of this world's gifts), were all novel, and consequently enchanting; so that although the sweet word 'contentment' seems almost misplaced when applied to define such feelings as swayed *her*, yet that contentment, of a peculiar description certainly, was the portion of Mrs Santillian, admits of no doubt. But this pleasant state of things did not continue many months. The novelty (as novelty ever will) began to wear away, and custom made valueless those extraneous circumstances attached to the possession of wealth, which once had been contemplated from a distance as almost too intangible and intoxicating for sober realisation.

Rosamond entered many larger and more magnificently-appointed mansions than her own; she beheld jewels more precious, equipages and their attendant retinues more numerous and splendid. Santillian's fortune, large as it was, would not permit them to vie with those who had double and treble their means; and by degrees something very much akin to envy infused its drop of poison into the overflowing cup of sweets once drained to the dregs with smiling complacency by fair Rosamond. Santillian was extremely fond of the healthful pastime of rowing, and he passed many hours in his boat on the beautiful river, which laved the emerald turf, sloping down to the sparkling water's side, whose tiny wavelets kissed the blushing roses, blooming in Eastern profusion around their villa. When Rosamond declared that the graceful shallop, with its white awning, reposing almost beneath their windows, and into which she stepped on sunny

days—swiftly gliding along amid fairy-like scenes—reminded her of descriptions she had read of Italian lakes and gondolas, and almost made her wish to be *there*, Santillian little surmised that this declaration was but a prelude to what was coming. He was a kindly, happy-dispositioned fellow; and with a cheerful, well-ordered home, with a moderate influx of gay and well-bred society, he might have been trained into the very best and most domestic of husbands; and his wife, loving and beloved, might have retained him a willing captive by her side. But Rosamond began to complain of the English climate not suiting her constitution; she needed a warmer, a more genial temperature, and a southern land was hinted at by the accommodating Esculapius who attended her. Did the fanciful, fastidious patient ever in dreams transport herself back to the little town of Wellingford, where in her humble little home, at the sweet gloaming hour, her brightest air-castles would have seemed 'grand enough' even to Irish Dona, had they placed before her mind's eye such a future as that which was now her present? Then, an invitation to a dance at Abbot's Hall was sufficient to keep Rosamond awake all the previous night, from the excitement of anticipation. Then the simple preparation of a snowy muslin robe, was the utmost stretch of expenditure to which Mrs Mertoun's slender means could attain, with a few natural flowers, carefully selected from a neighbouring greenhouse, to adorn her lovely daughter's hair. Thus attired, Santillian had first seen her; and did he admire her more now than then? Had they ever passed happier hours than those which had sped away so rapidly in that dull little country town? Solutions to such close questions were unanswered, probably because the questions themselves were unasked; for it was not Mrs Santillian's habit 'to commune with her own heart in her chamber.' She desired change of scene, stimulus, variety; and it was enough for Santillian to hear his wife express that such was her wish, seconded by the physician's advice.

So to the sunny south the young couple departed, and for the two ensuing years became continental wanderers—entering with unabated zeal and spirit into all the amusements and dissipations of the principal cities. It is sometimes astonishing to witness how much the delicate creatures from northern climes can do; what fatigue they can endure—what an amount of privation and exposure, when inhaling foreign air, and succumbing to foreign habits. The glorious monuments of antiquity—the sculptured marbles and classic gems—were almost passed unheeded, or, if heeded at all, glanced at carelessly by Rosamond, merely because it was the fashion to view them—and to utter hollow rhapsodies concerning the love of genius and its works. Rosamond did not experience indefinable emotions when beholding places signalised by great actions; for it is to this disposition of the soul we may attribute those strong religious impressions from which pilgrimages to particular shrines originate. She heard travellers speak of beautiful islands, clustering in azure seas, where purple mountains tower, and wooded vales re-echo with the songs of 'strange bright birds;' whose cities are built on plains covered with olive woods, and at the base of an Acropolis crowned with a temple whose white marble columns glance in the cloudless sunshine; where there are quarries of this fair white marble, with vines festooning the dim, mysterious, caverned depths, profusion of gay and odorous wild-flowers, and much wild honey.

And dispersed over these islands are fair and elegant memorials of the poetic past—lonely pillars, perhaps, on the green, silent plains, the tomb of some hero or the fane of some god. The air is balmy and fragrant, and the magical scenery is coloured with that mellow tint which we conceive to be peculiar to autumn, invested with somewhat of a pensive character, and associated with cherished and hallowed recollections. Santillian spoke of purchasing a yacht, and cruising amid these storied realms of Greece; but Rosamond ‘detested the sea—it always nearly killed her; and besides there were corsairs, and all sorts of horrible things to be met with thereabouts!’ The crowded ball-room, the Opera, the promenade, had far stronger charms for her—held out allurements far greater; and there was many a precious pile, whose name is a spell, and whose vision is romance, which she turned from with apathetic indifference. When the amusements of one city seemed to be exhausted, or, more correctly speaking, palled on her jaded appetite, then with restless avidity did Rosamond urge her good-natured husband to seek another; yet vainly seeking for that fancied happiness which they, alas! were leaving yet further and further behind. Nothing delighted Rosamond so much as the brilliant Neapolitan masquerades; and she thought it ‘perfectly abominable’ that the charming Carnival was not celebrated throughout the whole year.

She never flagged in the pursuit of pleasure, unweariedly giving herself up to be its slave; and immersed in the dangerous vortex, she neither listened to or heeded her husband’s gently-expressed wishes, that fond as he confessedly was of a giddy idle life, there might be *some* bounds to it. But Rosamond’s credulity of admiration, her avidity for the flattering incense offered at the shrine of her beauty and fascinations, increased by what it fed on—the diseased appetite was never satisfied, it always craved for more. Santillian himself was of so gay and ardent a temperament, and withal so good natured and thoughtless—so fond and proud of his lovely wife too—that he had not firmness of purpose sufficient to steer amid the rocks and quicksands surrounding him, and he wanted courage to meet her tearful eyes: when he hinted at moderation, it seemed actually cruel to curtail her enjoyments. By degrees he became reconciled to the utter absence of all domesticity—nay, unable to exist without daily excitement! And yet Rosamond was a mother—their little daughter was born within the first year of their union, and fortunately for the delicate, neglected baby, the faithful Dona was its nurse. Perhaps Santillian was not naturally of a jealous or exacting nature, otherwise he might have objected to a certain degree of levity or flightiness in his wife’s demeanour, clearly perceptible to less partial observers: she was worshipped, caressed, and fêted wherever she went—the queen of beauty and fashion! No wonder her weak young head was turned when there was no guiding star to pilot her onward course. Rosamond’s poetical dreams of girlhood were realised to the full—she revelled in fairy land, and earth was her paradise. Even when Santillian *did* look grave, and it was but the shadow of a cloud, she still retained the magic power to soothe and charm him by a loving caress: the bloom of passion, transient, fleeting, and delicate as it is, had not yet disappeared for ever.

But, alas! poor, foolish Rosamond, could you have known that the titled fashionable idlers, whose homage was so coveted and delightful, said to each other in private—‘I am glad that fair creature is not *my* wife’—or

that, with equivocal smiles, they regarded your graceful movements—how would the blush of shame and indignation have mounted to your cheek! Men pitied Santillian—he was such a liberal, fine fellow! They laughed at his wife. Yet the coxcombs luxuriated at his princely entertainments, and treated *her* in public as a divinity. Nevertheless, vain, and selfish, and flippant as Rosamond was, neglectful too of her child, still that child was dear to her, and she knew that with old fond Dona it was well attended to and cared for. Santillian idolised his little girl: she was called Sidney, after him, and did not in the least resemble her mother, having Santillian's laughing dark eyes and jet hair. Sometimes when Rosamond snatched a moment to contemplate the sleeping cherub, strange indefinable yearnings of tenderness crept over her, and she thought that *some day* they would all go to England, settle down soberly, and then she would have loads of time to expend in watching over the growth and improvement of her pretty one! When the darling first learned to lisp the accents so dear to parents—'papa, mamma'—they were thrilling sounds in Rosamond's ear, attuned as it was to far different music; but alas! the impure and clashing music of *her* world soon drowned the remembrance of these sweet and innocent notes of the fledgling, and the bright-plumaged mother-bird flaunted her feathers to applauding crowds, heedless of the faint loving cry that issued from the nest in the background.

At last they *talked* about visiting England again—the 'some day' seemed likely to be realised; but misfortunes were brooding, change of fortune overhung the devoted pair, and the dismal gloom of their marriage-day in Talissen Valley was about to follow and envelop them now. Reverse of fortune, appalling words to the brave and true-hearted, but to Santillian and Rosamond how overwhelming! But the direful tidings were borne on swift wings: the banker in whose hands Santillian had carelessly or imprudently intrusted three parts of his fortune had absconded—a ruined, disgraced man. The loss was total and complete, and the Santillians, with many others, were hopelessly wrecked. Rosamond stormed, and raved, and wept wildly; but Santillian stayed not to hear her upbraidings: he flew to his native land on wings of despair, to see if aught could be done to save a moiety: it was unavailing, and he returned to his foreign home to find her, who ought to have proved his best counsellor and friend, stretched on the bed of sickness, racked by fever, impatient of control, and deserted by all her gay associates.

The news of Santillian's ruin had transpired— but the tender sex feared lest Rosamond's fever was infectious! 'Tis an old tale and often told, of 'summer friends,' and need not be recapitulated. Poor Santillian! *he* had never dreamt of the upbraidings of his wife; he believed she loved him for himself alone; and even when he heard her complaints and reproaches, the truth found its way by very slow degrees to his heart. But when it began to eat itself into the core, there came *recrimination*—that awful bane of married life—begun gradually, ending in quarrels frightful and frequent. He taunted her with the poverty he had taken her from; she taunted him with his 'silliness' for not securing his gold better; and then those words were spoken which leave a bitter sting behind, festering and poisoning. 'Words, words, words!' says Hamlet, 'God preserve us from the destructive power of words.'

V.

Settled in Paris, whither they speedily resorted on leaving Italy, the Santillians for a while forgot their woes: they secured a small but elegant hotel in the best quarter, soon filled by crowds of idlers, particularly of the male sex, attracted by the charms of the captivating hostess and the good-natured agreeable manners of the master. Santillian had never hitherto been fond of play, never indulged in debasing excess before; but now both vices imperceptibly gained ground—debts increased, and Santillian drank to drown thought; and he played, as he saw other men play, in the hope of winning! And he did win, and lived on his winnings, for his expenses far outstripped his now small income; but Rosamond *must* have her delicacies and refinements—costly toys, rare exotics, and a pretty though simple equipage to drive about in! She never asked *where* Santillian procured the means to satisfy her never-ending wants—they *were* satisfied; and she considered herself a martyr, victimised and enduring, her beloved child deprived of a princely inheritance through the folly of its own father!

But though Rosamond never asked, she more than suspected the source from whence her husband drew his supplies, for she knew that their legitimate income at present was inadequate to meet their current expenditure. 'Why should I not try *my* luck too at play?' thought Rosamond, as she watched two of her female acquaintances—painted old Jezabels *they were*—sweeping in their winnings with sparkling eyes and palsied heads. 'If *they* win, why shouldn't I? I'll try at anyrate, and only hazard a *little*.' An evil genius was at hand to second this resolution, in the guise of a certain Count Victor Montalban, who might be seen, night after night, leaning over the couch, with graceful ease, on which sat the beautiful Mrs Santillian, whispering behind her fan, and otherwise exerting his utmost powers to please. He was a boyish-looking fair young man, but of distinguished carriage and elegant address, and fame rumoured with her thousand tongues that he had achieved more conquests than any other Adonis of his age. Unenviable distinction, coupled with the notorious fact that he was a cool and determined gamester! Rich and profligate—what a dangerous intimate for a young, lovely woman, whose husband was rarely at her side, and whose indifference was only too perceptible! Alas, what fond love she had lost! Poor unhappy Santillian, how debased he was becoming, how thoroughly ashamed of himself. Yet let it not be imagined that had he deemed Count Victor Montalban an improper or equivocal associate, he would have tolerated the count's presence one moment beneath his roof. But Santillian saw that he was received with flattering preference by those whose characters were spotless: by chaste matrons and modest maidens—blush we for such tampering with vice!—and he gave himself no further concern about the matter; a preoccupied mind, and a frequently confused brain, leaving no room for any very lucid perceptions unconnected with the gaming-table. With delighted alacrity Count Victor undertook to initiate his lovely pupil in the mysteries of play; she too speedily became an adept, and her success was absolutely intoxicating. She was half-reluctant

to win so *very* much, felt some modesty on that score, particularly as the count became proportionably unfortunate. But who would wish to trace step by step the downward progress of that despicable character—a female gamester? Rosamond was no match for Count Victor: her luck changed, as he had willed it should, and with sinister smiles he watched the web weaving around her. Her vanity, selfishness, and violence (strange words applied to one whose lips were to have fed on honey-dew alone, and warbled pastoral ballads in Arcadia to white flocks!) had driven her husband to desperation, or materially assisted in doing so. Of her *own* doom she had no forethought, no foreboding; the strongest passion of her life had gained sole mastery—the passion for gold—and the unprincipled count used it as a means of attaining an end—that end being Rosamond's destruction. During this period Santillian remained in ignorance of his wife's proceedings, or the expedient whereby she ministered to debasing passions had probably received a check: she yet retained enough of salutary apprehension of her husband's just displeasure to conceal the worst truth from him, nor was Santillian aware that she played, save for recreation. But the fatal time at length came when Rosamond no longer hesitated to avow her misdeeds to her miserable husband: she had nothing more to expect from *him*, and what cared she in her reckless mood?

In a state of frenzy he burst into her chamber, where a late forenoon breakfast stood untasted (low, pale, and jaded she looked, though still transcendently lovely), and without a word of preparation divulged the terrible fact that, during the past night, every scattered remnant of fortune (which had been oozing away drop by drop) was engulfed in a final and complete closing stroke.

Unmoved, Rosamond listened to the avowal, and with a look of unutterable scorn she merely remarked—'You mean to tell me that you are a beggar, Mr Santillian?'

Furiously he exclaimed—'By Heaven, madam, if I am a beggar, you are one too!'

'Nay, I am not so sure of *that*, sir,' she replied with provoking calmness. 'But pray did you rush into my apartment for the sake of disturbing my peace—to show off these vagaries?'

Stung to madness, Santillian with imperious gestures demanded the key of her jewel casket. She gave it him instantly, with a smiling mien, for he hesitated to apply it, as anger cooled, and he began to regret his unbecoming behaviour.

'I want some of your jewels, Rosamond,' he said. 'I must have them immediately, for I have a debt of honour which cannot remain unsettled.'

'Pray open the casket, sir, and help yourself to all you find there!' responded Rosamond with infinite suavity.

Santillian threw back the lid, but save one or two worthless baubles it was empty!—the pearls, the emeralds, the rubies had vanished! Lastly, Santillian raised the tray beneath which the diamonds presented by Ruth Lewellyn were wont to repose on their scarlet velvet pillowing: the compartments were bare—the diamonds were gone! Trembling with dismay and rage, Santillian demanded of his wife what had become of the diamonds.

'Was it the diamonds you particularly required to dispose of at present?' answered Rosamond tauntingly. 'The rubies were as valuable, I think; at least I found them so.'

'You found them so, madam?' said Santillian in a loud voice. 'Do you dare to tell me that you have disposed of these jewels without my cognizance and sanction? You dare not have parted with Ruth Lewellyn's diamonds!'

'I have dared to do what I pleased with my own, sir,' replied Rosamond with spirit and acrimony. 'I have debts of honour as well as *you*. Listen to the truth now: I fear you not! I have dared to sell Miss Lewellyn's diamonds, though they went last, for I really was sorry to sacrifice them.'

Santillian's eyes flashed fire, and Rosamond shrank from his concentrated wrath. It was terrific in its volcano-like explosion: never had she beheld him thus before; 'twas as a hurricane of his native islands, sweeping all before it. When he did speak coherently, his voice was low and ominous, as he seized her arm, and in a hissing whisper said, 'Are you joking? If so, it is a dangerous joke; or have you incurred such debts as you allude to? Have you sold the jewels which Ruth Lewellyn placed in your hands as a sacred deposit?'

Endeavouring to find courage in bravado, for Rosamond was half-frightened at her husband's aspect, she impudently replied, 'Why should I not follow your example, Mr Santillian? Why should you scruple at my having debts of honour incurred at play? Are *you* so immaculate? And pray what is Miss Lewellyn to me, that I should hesitate to dispose of her diamonds in time of pressing need?'

'Listen, madam! Afterwards you will give me an account of your transactions in the minutest manner as regards the debts you speak of! You have tarnished my honour by parting with the diamonds which Ruth Lewellyn's mother designed for her, for *she* was my affianced bride! Had she withheld consent, *you* never would have been my wife; and God knows,' he muttered between his teeth, 'it would have been better for me had she withheld it!'

'And pray why *didn't* you marry her?' exclaimed Rosamond flippantly. 'She was rich, and I was poor; she a pattern lady—I a good-for-nothing'—

'I did not think about riches, Mrs Santillian: perhaps you did. Ruth Lewellyn and myself were affianced when we were children by our parents; and when I came to England, and first saw her at her guardian's house, I loved the amiable Ruth, or fancied I did. You know the rest'—ah what a sigh escaped from the depths of Santillian's breast, what volumes of memory it spoke!—'you know the rest: we met, and my fate was decided. I threw myself, after many struggles, on Ruth's mercy, and confessed all. She released me instantly, fully, freely; and I have had one consolation in the belief, the hope, that her love for me was even lightly rooted, as mine had turned out to be for her—that it was merely a preference, easily cast aside without a pang, without a feeling outraged. Sometimes'—here Santillian spoke in a subdued tone, as if communing inwardly—'sometimes I have fancied there were looks and tones which *she* never can transfer to another; but it matters not now, and I pray to

SANTILLIAN'S CHOICE.

Heaven that Ruth Lewellyn is as happy as she deserves to be.' Then turning to his wife, Santillian continued, 'And now, madam, that you have heard why I have reason to respect and esteem this lady, you can understand, I presume, why I respect the value she attaches to the munificent gift you have so wantonly sacrificed: not for its intrinsic value, *that* you know. But once more I must cast myself on her mercy—she acted nobly by me.' Here a taunting laugh from Rosamond rang odiously on her husband's ear. 'Oh, would to God that she had kept me to my bond; I had been a better and happier man! Sweet, good Ruth!' The words broke from Santillian in agony of soul.

'This to me, sir—this to me?' exclaimed Rosamond with all her woman's pride and jealousy aroused. 'Dare you speak thus, and suppose I will endure it? If you regret your marriage with *me*, what have *I* not to regret? I that am tied in my summer prime to a beggar, and my child's prospects blighted!'

'Your child!' cried the unhappy father. 'What sort of a mother have you proved to your child? I'll tell you what you have compelled me to do, madam—I must instantly apply to Miss Lewellyn for a loan of money—partly to reclaim the diamonds, and restore them to her safe custody, and partly to save me from disgrace—for money I *must* have, by fair means or foul.'

'And so must I,' muttered Rosamond; 'for three times the value of all those jewels would not clear me!'

'Moreover,' continued Santillian, but his voice lowered and trembled, 'if you do not reform and change your habits, madam, I shall intreat Miss Lewellyn to take charge of my daughter, to preserve her from the contamination of such an example as yours. Exposed to Miss Lewellyn you *must* be now, to save exposure to the world. Oh, Ruth, you are revenged indeed—if so holy a nature as yours could comprehend the meaning of the term!'

'This is too, too much!' cried Rosamond, convulsed with scorn and rage. 'You threaten to expose me to Ruth Lewellyn! *you* threaten to take my child from me! you, a drunkard—a swindler for aught I know; and what not—what not besides!' And she flew past him with a look which haunted Santillian to his dying hour. He was not blameless—dare he cast a stone at her?

The wretched mother rushed to her child's apartment; little Sidney was busy arranging flowers, but she held out her arms to be caressed. Rosamond flung herself on her knees, and clasped the innocent wildly and frantically to her bosom, held her away, scanning her features again and again, as she impressed ten thousand kisses on the astonished child's lips and brow. Even then the mother might have been saved had Santillian knelt beside her. But alas! her doom was sealed; there was not a tear in her blue eyes; no sigh was breathed, no word moaned forth; but taking a white moss-rose from little Sidney's extended hand, Rosamond placed it in her bosom; and as Dona entered the apartment by one door, she vanished through another entrance, merely resting on the threshold to ejaculate in hurried accents, 'Never forsake her, Dona!'

In a few hours afterwards the guilty and unfortunate Rosamond was

speeding on a rapid flight from Paris; but not alone: her companion was the vile and profligate Count Victor Montalban.

Hapless woman! we must now abandon you to your dismal fate, and suffer dark shadows to screen you from the knowledge of the pure and good.

VI.

It was late on the ensuing day ere Santillian became aware of the dreadful truth. He had retired to rest as the morning sun was rising, after a night passed in unhallowed orgies—inebriated, and insensible to all passing occurrences. When he did comprehend that he was dishonoured and disgraced, he suddenly seemed to wake from a long and lethargic sleep, the fiery spirit of former times burning in his veins, and rousing him to action. The late pursuit, however, proved unavailing: no trace was to be obtained of the fugitives; and balked, thirsting for blood, mad, and reckless of all things, the miserable Santillian was as a caged tiger—dangerous to approach, and as if dashing its head with impotent fury on the enclosing iron bars.

Through the merciful interposition of a kind and overruling Providence, timely aid and succour were nigh when the shattered vessel was fast sinking in deep waters. Mr Leslie, accompanied by his unmarried daughter and the Lady Howards, were passing through the French capital; and during a halt of a few days, the tidings of the beautiful Mrs Santillian's elopement reached them, like every other nine days' wonder. Mr Leslie had known Santillian's father, and now the worthy, benevolent man acted the part of the good Samaritan, and with a firm, judicious, guiding hand, wrested Santillian from the horrible yawning gulf in which he was all but lost. Mr Leslie never again quitted his young friend's side until he fairly saw him embarked for India, to take possession of an appointment there, obtained through his influence. A wreck in mind and body, Santillian departed, abased and humbled, if not penitent; for Mr Leslie had not spared him, but with a father's probing hand had laid bare the weakness, the sin of his former existence—the lost one's ruin accelerated by a husband's neglect and harshness. No exculpation, no extenuation would Mr Leslie give heed to; Rosamond was vain—Rosamond was silly—Rosamond was selfish; but she had been Santillian's choice; and he had sworn before the altar to protect and cherish her. 'How have you fulfilled those vows?' said Mr Leslie. No divorce was sued for, and the little Sidney, with her faithful nurse, accompanied the Lady Howards to England; and the kind creatures never lost sight of her until, safely sheltered at old Lewellyn, they beheld her nestling in Ruth's encircling arms, who bowed her head and wept bitterly as she listened to Santillian's charge—to be a mother to his motherless child.

'I will so far as in me lies,' she devoutly murmured; and setting her face towards the sweet task, she besought strength from above to fulfil it worthily.

Ruth sat alone in the halls of old Lewellyn, gazing forth on the peaceful moonlight, bathing tree and greensward in silver radiance. It was a delicious enjoyment of melancholy and retrospection—one in which she

rarely indulged; for Ruth considered it weak, perhaps even sinful, to give way to futile regrets and harrowing thoughts. The scenery without was romantic, and there were spacious chambers and gorgeous canopies within: the oak library, Ruth's favourite resort, a sombre vaulted apartment, abounded in quaint oak carvings, the tracery of other times. The awful note of the bloodhound, baying on his chain, was heard; and the pleasing melancholy of the hooting-owl, from his hereditary chamber on the roof. These were the only sounds disturbing Lewellyn's solitudes at the evening hour; for the tunefulness of the cooing wood-dove was silent, and the morning rooks, which bustle and caw unceasingly with the opening dawn, had long since folded their pinions, and sought their rest. Nay, but the musical winds were piping and roaring adown wide chimneys, round gable-ends, and among twisted lichened boughs, tossing their sturdy arms wildly in the clear night-air. Despite the vagaries of Boreas, there was a Sabbath repose over the deep glossy verdure of pasture-land, stretching away to the distant hills—a repose which stole over Ruth's spirit by degrees, as she distinguished the first faint notes of a wild but mournful melody, which presently swelled into a full, rich harp accompaniment.

Ruth smiled in sad sort as she listened, for the plaintive ditty was not adapted to dispel her unusual melancholy. Often she said to herself when thus tempted to indulge the luxury of wo: 'Up—up, and be doing, Ruth; life is real—life is earnest!' But on this particular evening, the depression she had suffered from during the day obtained complete ascendancy. Were coming events indeed casting their shadows before? and had she lost the power of combating with the mysterious forebodings? The shadowy darkness no doubt tended to increase the illusions of fancy, which were in some measure dispelled when a domestic appeared with lights; and a happy girl, who had apparently numbered about half a score years, bounded towards her with dancing step, and in delighted accents exclaimed—'Oh, Ruth dear! Martin Baraton, the blind harper, has come; didn't you hear him? He has been singing your favourite song under the window in the moonlight, and Dona and he have been quarrelling again; for Dona will always tell Martin Baraton that Welsh romances are not half so good as Irish ones.'

'My darling Sidney,' replied Ruth, 'you talk yourself out of breath. I hope the servants are taking care of the poor old man?'

'Yes; they have got him in the servants' hall now, and he is playing to them. Martin's little grandson, Duetto, is with him; but, oh dear! I have almost forgot what I came to tell you, Ruth. Martin Baraton wants to see you directly; he has something particular to tell you, he says; and he thought when you heard his harp on the green outside, you would have stepped out, as you have done sometimes before. He is very tired, for they have come a long way to-day; and little Duetto has fallen asleep.'

'And, my flower, I think your bright eyes look as if they were that way inclined too,' responded Ruth with irrepressible tenderness, as the sweet girl clung to her, gazing up at her pale countenance with a child's fond and trusting affection. 'I am afraid that Dona and Emaré have played truants, and Martin's music has bewitched them, and they have let you off your bedtime, my lily.'

'I'll go to bed directly, dear Ruth,' replied the docile little girl, 'and fall

asleep, too, as fast as poor Duetto. But you'll come and look at me when I am asleep, and give me the kiss you always do—wont you?"

'Coaxing puss! Suppose I say yes?' whispered Ruth, embracing her.

'Why, then, I know that I shall dream about you, or about papa so far away, and of angels who watch over him and us. (Good-night, dear, dear Ruth—don't forget old Martin Baraton.' Ruth gazed after her with dreaming eyes as Sidney tripped gaily away, humming snatches of the song which the blind harper had just before enchained his partial listeners with. 'I will not stay my journey, nor halt by any town!' chanted little Sidney softly, as she disappeared.

VII.

Seven years had glided by since the time when Santillian's only child had been confided to the care of Ruth Lewellyn. Santillian himself was still toiling for a competency in India—manfully striving to retrieve past errors. Seven years had glided by at old Lewellyn, unmarked by passing events; and if *happiness* was not Ruth's portion, she enjoyed a repose and contentment in the meek performance of her duty which is only attained by the well-fortified Christian. With more than a mother's devotion of purpose, she tended the precious child whose infancy had been so cruelly despoiled of natural guardianship, striving to bring up her charge in the fear and admonition of the All-good; and when the gentle little girl nightly offered up her simple prayers, kneeling at Ruth's side, petitioning God to 'bless and keep her dear absent papa and all friends, and to turn sinners to repentance'—then, from the inmost recesses of her soul, Ruth re-echoed the supplication—*she* inwardly breathed the name of one which might not pass her lips in speech—a branded name—the name of the unconscious Sidney's mother—for Sidney deemed her mother dead; and truly she was dead to her, so far as this world was concerned.

No tidings had ever been heard of the outcast: she had vanished from the stage whereon the short but fatal tragedy of her life had been enacted. She had passed away unheeded and uncared for, and Ruth dared not show the long fair curl (how well she remembered severing it from that beautiful head!) to little Sidney, bidding her kiss it, for that it was her *mother's*. Ruth turned shudderingly away from the contemplation of what the lost one's fate might be; but, alas! the depths of misery her pure mind could imagine fell far, far short of the truth.

'Don't forget old Martin Baraton,' said Sidney. Nor was Ruth inclined to do so, and she at once summoned the blind harper to her presence.

'Well, Master Baraton,' exclaimed Ruth, with a kind and cordial welcome, 'and what have you to say to me, for Miss Santillian tells me that it admits of no delay?'

'We have delayed too long when a fellow-creature may need aid,' slowly responded the venerable bard. 'I thought the moonlight and the music would have tempted my lady's footsteps to press the dewy greensward; but one lies at St Agnes's Cross who wishes to see you, honoured madam—and to see you alone.'

'What mean you, Martin Baraton?' exclaimed Ruth much surprised, and with unusual trepidation at her heart. 'Who is it that rests but one short mile from old Lewellyn's gates, and does not enter them for succour, if such be needed?'

'I know not, madam,' replied the harper; 'but as we were traversing the lonely hills this evening on our route hither, a wearied wayfarer overtook us. I could not see her face, for a hood concealed it; but her speech betokened gentle breeding, though her tattered garments and delicate feet, scarce protected from the rough pathway, spoke of utter destitution. She could scarcely drag her exhausted frame to the foot of St Agnes's Cross, and when I told her that Lewellyn was but a short mile distant, and that the noble hostess never turned the wretched away from her door, the woman wildly exclaimed—"Not a step nearer—not a step nearer! I dare not pollute the threshold or the precincts. Here, at the foot of the cross, I will lay me down to die—I hope to die!" And oh! dear madam,' continued the old man, himself much affected, 'to hear her convulsive sobs as she sank down! But ere I quitted the unfortunate creature, I shared with her my morsel; but she rejected food with loathing, though eagerly swallowing a cordial which we bards never travel without. It revived her, and she bade me see Lewellyn's lady, and beseech her, in the name of the Most High, to seek St Agnes's Cross—and alone. She bade me tell you, if you hesitated, that she had tidings to impart of one from whose brow you once severed a long fair lock of hair.'

'I have tarried too long—I have tarried too long!' exclaimed Ruth, fearfully agitated; and throwing a large shawl around her, she was preparing to step forth, when Martin Baraton, who *heard* and judged of her movements with the certainty and instinct of sight, arrested her footsteps by saying—'May it not be well that some of your attendants follow at a distance, within your call, for methinks the poor woman was in a feeble condition, madam, and may require aid to bring her hither?'

'Thanks, thanks, good Martin, for your forethought,' faltered Ruth; 'send Dona and Philip only.' Philip was the steward, and had grown gray in the service of the Lewellyns; no other eyes might gaze on what Ruth was about to witness; she foreboded the truth, and silently glided with swift and noiseless steps in the direction of St Agnes's Cross, which was a mile distant from the Hall.

Notwithstanding the clear and brilliant moonlight, the cloudless firmament studded with stars—those 'flowers of heaven'—there was a wailing wind like a funeral dirge sweeping through the trees; sad, unearthly music it sighed, and moaned, and whispered forth, dying away in faint, prolonged surges over the distant hills. St Agnes's Cross was a rough-hewn stone monument, shaped as its name implies, and of unknown antiquity; traditions were attached to it, of sacred origin, concerning the pilgrim fathers and holy saints of early Christian times, and the peasants venerated the holy symbol which reared its uncouthly sculptured form on the side of a hill, at whose base flowed the limpid rivulet which presently washed the emerald pastures of Lewellyn.

As Ruth neared the cross, she beheld a human form crouched at the foot, enveloped in a dark cloak: the figure was sitting, with the knees gathered up, and the head buried on them. Ruth's footfall was so soft

that not a rustling leaf betrayed her approach, and she stood close beside the mysterious individual, listening with breathless awe to the heavy sighs and groans that escaped from the sufferer, ere the latter became aware, by a gentle touch, that her summons was obeyed. The hood was thrown back; the suppliant knelt at Ruth Lewellyn's feet in an attitude of the humblest supplication—one hand extended towards the cross, the other pressed on her panting bosom, as if to still the throbs of anguish which broke forth nevertheless in half-stifled sobs.

Brightly and clearly shone the moonlight on the woman's upraised face—a face whose haggard pallor was inscribed with the lineaments of death; there was no trace of beauty, for want and disease had stamped their unmistakable characters, but a profusion of fair dishevelled hair fell over her shoulders, those shoulders exposed, from scanty covering, in all their whiteness and attenuation.

'Rosamond!' was all the agitated Ruth could utter, stepping forward to raise her.

'Touch me not, Ruth Lewellyn,' was the reply in hollow broken accents; 'my touch is contamination! Tell me of my child; tell me of him—*him*—who *was* my husband. My days are numbered; but I have crawled hither—*hither*'—pointing to the cross with a gaze wherein penitential agony was expressed—'to die!'

'Rosamond!' exclaimed Ruth, almost overcome by her excited feelings. 'Rosamond, friends are nigh; you must come with me home and be tended.'

'Home!' cried the heart-stricken penitent: '*home!*' And oh the plaintive intonation of that sweet word! 'Do you, can you fathom what I am, Ruth Lewellyn? and talk of home—*your* home to *me!*'

'Behold the blessed emblem which overshadows us *both*—together we kneel at its foot. Rosamond, my poor sister, *come home with me!*'

They had conveyed the dying penitent in an insensible state to Lewellyn, where, tended by Ruth and the faithful Dona, she lingered yet a few more days on earth. Medical advice was unavailing: the doctor shook his head, and said nothing—alas! what *could* he say?—but that death in this case must be welcome! She expressed a desire to gaze on her child, when the innocent Sidney was sleeping, for, said the mother, 'their eyes must not meet.' And so it was; they supported her to where Santillian's daughter lay, but Santillian's wife touched her not—impressed no kiss on her child's lovely brow. She gazed, and gazed, as if her soul was melting in the intensity of her contemplation, and then turned away with the singly uttered word 'Mercy!' on her lips, as her dim eyes, so hollow and sunken in their sockets, were appealingly raised to Heaven. The mother had looked on her forsaken child for the last time on earth: she was now about to turn her 'face to the wall,' and die.

'Ruth,' she whispered on the evening preceding her release, 'I wish you to satisfy me on one point—you will not scruple or refuse me *now*? I wish to comprehend your noble nature fully. Did you love Santillian when you gave him up to me—love him as *I never* did—even as *he* loved *me*?'

'Oh, beyond that! beyond that, Rosamond! Beyond comprehension and beyond words was my love for Santillian. To see him happy, I would

freely have given my heart's blood; for what has *self* to do with woman's love—that last pure relic left of Eden upon earth?’

‘And yet you forgave me, Ruth, for ruining your happiness! You have nurtured my motherless child with more than a mother's tenderness, and you have received and tended the miserable outcast with more than a sister's devotion! I know not half your goodness, angel Ruth!’

‘Remember from *whence* I derive the power to combat with evil,’ responded Ruth with deep and unfeigned humility, ‘and give Him the praise to whom praise alone is due.’

Many other words spake Ruth in the chamber of approaching death—words far too solemn and sacred for repetition here. She received the parting breath of Santillian's once idolised and beautiful wife; she received her last grateful look ere the glazing eyes closed; she leant over to catch her last faint whisper—the whisper for ‘Mercy!’ Concealed on the emaciated bosom of the departed, a small silken purse was found containing a withered rose—a white moss rose: in all her wanderings and miseries the wretched outcast had cherished this precious relic—snatched from the hands of her innocent child on that fatal day when she abandoned her for ever. It still reposed on the mother's cold breast when her mortal remains were consigned to the grave. There are lonesome burial-places among the hills, where man's dust continues to be deposited after the house of God has been removed elsewhere; and on such a green hill-side there was a nameless mound, on which rested the last rays of sunset, and beside which Ruth Lewellyn often paused in sorrowful meditation. It was Rosamond's grave; fair flowers bloomed around it—roses—lilies—violets—and the delicate evening primrose, which passes away so soon, and in the briefness of its continuance is emblematical of human life.

Within three years subsequent to these events, Santillian returned to England. He had succeeded to an ample fortune by the death of a distant relative, from whom he had never entertained the smallest expectations. It is probable that, under other circumstances, there might have been some degree of embarrassment in Santillian's manner on first meeting Ruth Lewellyn beneath her own roof; but the *father's* feelings were all predominant, and other memories were merged in the overwhelming rush of gratitude towards her who had fostered the engaging and blooming girl now restored to his longing arms. Besides, there was a frank ease about Ruth herself—a cordial affection which spoke volumes of friendship—nothing more—which prevented any recurrence to distressing remembrances. Santillian was changed: lines of care and thought were deeply indented on his fine brow, while scattered hairs on the temples (and some of those gray) left bare a space once thickly covered with short clustering curls of jet. Nor was the change confined to his appearance alone: misfortune had wrought a salutary and healthful revolution in the inner man; and who may say how his proud heart quailed beneath the stinging reproof of conscience?—she who was ‘so young, so fair,’ gone to her death.’ As to the gentle and pious Ruth, she scarcely looked older than when they separated years ago; her raven braids were parted on a smooth and stainless forehead, and her expressive eyes retained the lustre of youth; but gradually there had stolen over her, as time progressed, a certain indefinable charm—

immaterial, unearthly—a magical charm which shed its influence on all within her sphere of action, and proclaimed, with mute eloquence, that her interests and her hopes were separated for ever from this world. Had it been otherwise, perhaps Santillian might have been presumptuous, so tender and assiduous was her affectionate solicitude for *him*; but there was a barrier between them which he felt it impossible to overstep; and but once, when he faintly attempted to do so, Ruth recoiled with such evident sorrow and surprise, that Santillian had scarce courage to meet her melancholy eyes again.

‘Keep her with you a little longer, dear Ruth,’ said Santillian, as he tore himself away from Lewellyn, placing his daughter in Ruth’s arms—‘keep her with you a little longer, until I have a home prepared ready to receive her—to receive her from your hands as my dearest earthly companion and friend. Her future home shall not be far from yours.’

Nor was it; for Santillian purchased an estate in the vicinity of Lewellyn, where he found daily cause of deeper gratitude to Ruth, who had trained so sweet a flower to bless and adorn his home. Hither came Mr and Mrs Ephraim when they were visiting Lewellyn. Strange puzzle!—for ‘Mr Ephraim had recovered sight, and yet was blind! Groping in total darkness, led about by his devoted wife, he yet saw as he had never seen before; for he saw his own errors, and learned her worth, often acknowledging that *she* was the brightest star that had yet arisen on his path. Hither, too, came the Lady Howards—all fun and frolic, wrinkles and silver locks, laughter and benevolence: they made the vaulted hall of Lewellyn ring again with their simple ballad songs, so that the blind harper, Martin Baraton, became quite jealous. And was not Ruth Lewellyn happy and rewarded?—she whose self-abnegation had been so perfect. Her judicious and extensive deeds of charity caused a lasting perfume to ascend, embalming her name in many hearts, long after she had departed to the ‘better land’ whereon her desires were fixed.

THE ISTHMUS OF PANAMA.

NOT the least interesting and important portion of the vast and unknown world which Columbus at the close of the fifteenth century stumbled against in his daring search after a westward passage to the Indies, is the crescent-shaped belt of land which connects the two Americas, and popularly known as the Isthmus of Panamá or Darien. It comprises the provinces of Panamá and Veracagua, and during the rule of the Spanish monarchs formed part of the viceroyalty of New Granada. When the South American states threw off their allegiance to Spain, it was incorporated with the new republic of Colombia. This curving neck of land is something more than four hundred miles in length, and its average breadth may be about sixty miles; but in its narrowest part, between Portobello on the Atlantic, and Panamá on the Pacific, not more, in a direct line, than about five-and-thirty miles of rock, forest, jungle, and morass separate the two oceans, and compel the mariner whose destination is China, Japan, the Indies, or the western shores of the Americas, to the long, stormy, and perilous voyage round the Capes. From the summit of the conical-shaped mountains in the centre of the Isthmus, which form part of the broken and dwarfed continuation of the northern and southern Cordilleras, the two oceans may be distinctly seen; but up to the present moment, this 'gate of the seas,' this 'key of the universe,' as it has been not inaptly termed, remains obstinately closed to the enterprise of the merchants and navigators of Europe, and the impatient and adventurous nation which peoples the eastern shores of the great American republic. The recent discovery of the golden treasures of California has greatly stimulated the previously ardent desire of commercial nations to break through this tantalising barrier to a direct and rapid intercourse between two hemispheres; but nothing has yet been done, except on paper, in real furtherance of an object so much talked of and so vehemently desired.

The projects for connecting the two oceans which have been chiefly discussed are those of Lieutenant-Colonel Lloyd, a gentleman appointed in 1827 by General Bolívar to survey the country, and now her Britannic Majesty's surveyor-general and civil engineer-in-chief, who twenty years ago was for laying down a railway from a point in Manzanilla, or, as the English charts have it, Navy Bay, about five miles west of Chagres, to Panamá, or by a still shorter cut to the Bay of Chorera on the Pacific; but who now as vehemently urges that a ship-canal should be cut in the same direction.

Another is the route by the Atrato river, indicated by the celebrated Humboldt, who, however, never personally inspected the locality he contends for; and lastly, the plan set forth by the projectors of the Pacific and Atlantic Canal Company, formed at New York, whose concession from the Nicaraguan government appeared likely, a short time since, under the surprising management of Mr Chatfield, representative of England, and protector of his majesty of Mosquito, and Mr Squiers, the envoy of the United States, to lead to an embroilment between this country



and the American republic. There are various plans subsidiary to these main schemes: that of Prince Louis Napoleon, for instance, who recommends that the Nicaraguan canal or railway should debouche further northward on the Pacific than proposed by Mr Bailey and others. These, however, are mere matters of detail, and cannot become of importance till one or other of the ship-routes, now existing only in the imaginations of eager and sanguine speculators, shall have become real and tangible. We appear to be as far off as ever from this desirable state of the question. The deputation from the New York Company, Messrs White and Vanderbilt, whose arrival in England, to arrange with British capitalists for the concession of half the Nicaraguan shares, was announced with so much pomp of phrase and circumstance on the 15th of October last, have returned to America without, if we are to believe the New York journals, effecting anything beyond eliciting a vague promise from Messrs Baring and other capitalists, that if, after a proper survey of the proposed route, and the exhibition of a reliable estimate of the probable cost, the project should appear feasible, they and others would be happy to assist in effecting so great and desirable a work. The New York Company have, it is understood, despatched Mr O. W. Childs, favourably known in the States as the engineer who effected the enlargement of the Erie Canal, assisted by several

THE ISTHMUS OF PANAMA.

young men, to make an accurate survey of the Nicaraguan route; but we quite agree with the 'Times,' the strenuous advocate of the Nicaraguan scheme, that however high the estimation in which Mr Childs may be held in America, that in this country nothing less than 'a report, confirmed by government engineers,' will induce British capitalists to embark in a project of which the random, haphazard estimates, as given by friends and opponents, vary from three to ten millions sterling! The 'New York Herald' further affirms that there has been no real intention on the part of the New York Company to enter seriously upon the work of a ship-canal; and that their veritable and sole object is, and was, so to improve the transit to California by the San Juan river, as to render it a preferable route to that by way of Chagres; and that the few thousand dollars of paid-up capital in the company's coffers are scarcely adequate even to that very minor object. This is perhaps a mis-statement or an exaggeration; but be this as it may, the Nicaraguan scheme, in the European sense of the undertaking, has unquestionably, for the present at least, fallen through. The Atrato project is understood to have received a heavy blow and great discouragement from Captain Fitzroy's report, lately read before the Royal Geographical Society; and her Majesty's surveyor-general, after an eloquent dilation upon the immense superiority of his own plan over all others, calls upon the public, as the only means of really effecting anything great, 'to support him in the proposition he has made, that a conference may be held of the Institution of Civil Engineers, of the Royal Geographical Society, and others interested in science and commerce, with a view to sending out to Central America two or three young men, distinguished in their profession as topographical and civil engineers, and known for their probity, their energy, and their talent, to examine and report on the two proposed routes in the Isthmus of Darien: 'that is, the Chagres and the Atrato routes—that of Nicaragua being considerably north of the Isthmus.

Such, then, is the present unsatisfactory state of these much-discussed projects, all three of which we shall presently endeavour to lay clearly and intelligibly before our readers, neither concealing nor exaggerating the difficulties which appear to beset each of them. We cannot believe, however, that these difficulties are insuperable. Science in these days has practically ignored the word where physical difficulties only have to be overcome; and it is almost impossible to exaggerate the importance, to this country especially, of effectually breaking through a barrier which checks and cripples the commerce of two worlds. Even now, the western route over the Isthmus, spire of the harassing and tedious passage across it, is much the nearer way to the British possessions in the South Pacific—to New Zealand, the Great Britain of the southern hemisphere, and the Austral continent. There are three routes which it is known can be accomplished by steam in the following average time:—The Eastern route, or that by Suez and Singapore—

Outward Voyage,	80 days.
Homeward do.,	71 ...
Total,	151 ...

The Western route, by Panama and New Zealand, allowing twenty-three days from Southampton to Panama—

CHAMBERS'S PAPERS FOR THE PEOPLE.

Outward Voyage,	64 days.
Homeward do.,	63 ...
Total,	127 ...
Round the Cape of Good Hope—	
Outward Voyage,	72 days.
Homeward do.,	72 ...
Total,	144 ...

So that the Western route to Australasia, as at present existing, is shorter by thirty-four days than the Eastern route, and by seventeen days than that by the Cape. But this is a view of the matter confined to passengers and their luggage only, and the delay in getting across the Isthmus might, as far as regards such considerations, be sufficiently remedied by the laying down of a railway: a work which, if the Californian fever continue, could not fail to pay, nearly 70,000 persons having, it is said, scrambled across its rough and tangled surface during the last year. But the great paramount object is to make a shipway across the Isthmus, so that a China or Indiaman from Blackwall may sail through *without breaking bulk*. In order to have an adequate conception of the immense importance to this country of accomplishing this object, let us glance at the official returns of the commerce between Great Britain and countries in the Pacific and Indian Oceans. In the year ending January 1848—and we have seen no later returns—the number of British vessels engaged in this vast trade was 2322, their collective tonnage 976,451! The exports are set down at £25,668,178 sterling! There need not another word be said in behalf of the supreme necessity of supporting the surveyor-general's proposition, that an authoritative reliable plan be as speedily as possible perfected for relieving this already magnificent commerce from the sole obstacle which lies in the way of its complete development—a development gigantic, there can be no doubt, in proportion to the extent and solidity of the base, from which it will spring. Before, however, entering into a further and detailed examination of the projects we have named, all of which are now unfortunately at a dead lock, a glance at the civil and military history of this famous Isthmus during the three centuries and a-half it has been in the nominal possession of the European race, with one or two other topics incidentally connected with its fortunes, may not be unacceptable to the general reader.

HISTORY OF THE COUNTRY.

The Spaniard has left scarcely a perceptible impress, beneficial or otherwise, upon its wild and tangled surface; and other nations—English, Scotch, French—who at intervals have disputed its sovereignty and possession with Spain have not been more successful. It remains to this hour essentially the same uncleared, uncultivated, pestilential district as on the day Nunez de Balboa took formal possession of it in the name of the Spanish monarch. The forests are still thick, impenetrable jungles of huge trees and matted underwood, swarming with venomous reptiles and savage beasts; the rugged and frequently impassable roads—tracks rather, for road there is

none—are insecure and barbarous as ever; and the descendants of Europeans settled there scarcely less slothful, ignorant, and superstitious than the aboriginal Indian over whom they affect so great a supremacy and control. This province of Darien was, it will be remembered, the first part of the American continent upon which the Spaniards established themselves. In 1510 Nuncz de Balboa built the town of Santa Maria, of which no vestige now remains, on the coast of the Darien Gulf; but chancing to descry, a year or two afterwards, the close proximity of the Pacific, he removed the infant settlement to Panama—then a considerable Indian village, locally celebrated for the pearl fisheries of its bay, and the abundance of fish to be found there. To this latter circumstance it owes its designation—Panama, in Indian dialect, signifying ‘much fish.’ Portobello on the Atlantic, which possesses, as its name indicates, a magnificent harbour, is a later establishment, but has been long a mere pestiferous ruin, inhabited only by negroes and mulattoes, and one or two individuals of Spanish descent, whom cupidity tempts to reside there. It is built close to the sea, at the foot of high mountains, covered with thick, impenetrable woods. The soil is drenched with heavy rains, and hidden by a superincumbent load of decaying vegetation, from which the rays of the sun send up a miasmatic vapour which covers Portobello as with a funereal pall. The ‘Sepulchre of Europeans’ is its local and appropriate name. Even the inferior animals deteriorate and wither there so fatally, that meat for the support of the scanty inhabitants has to be brought with great difficulty, and at considerable cost, from Panama. Chagres, another of the Atlantic settlements, not far from Portobello, is a village of miserable huts built of reeds. Here also the inhabitants, with the exception of the customhouse authorities, are black or coloured. Both these places are distinguished for the enormous number of toads which cover the streets and roads, especially after a shower, or rather torrent, of rain has fallen; for on those shores our figurative expression, that it never rains but it pours, is strictly literal and accurate. It is impossible to step without crushing those agreeable and splendidly-developed animals—a moderate-sized individual measuring five or six inches in width! There are also Gatun, Capua, Cruces, Gorgona—these two last are the watering-places of the Isthmus—and one or two other collections of huts, dignified on the maps with the names of towns.

All the Spanish settlements, with the doubtful exception of Panama, are merely the decayed and decaying encampments of a race of men who sought those regions, not for the purpose of developing the vast and enduring riches of the soil by clearing it of its encumbering vegetation—not to render their immense mineral wealth accessible and available by permanent improvement of the means of internal communication, but to hastily rake together by any means, however violent or nefarious, sufficient of the precious metals to purchase for themselves a life of luxury and indolence in the old world which they had left with hesitation and regret, and to which, their selfish purpose accomplished, they hastened to return. Such men were never yet the precursors, the pioneers of a true and lasting civilisation. The race of Iberian conquerors and emigrants ultimately settled down in the America of gold and silver mines, turning disdainfully aside from the northern countries, which offered wealth only in exchange for sturdy labour and skilled energy. Those territories they were finally content should be possessed by the

Anglo-Saxon, and time has abundantly shown who made the wiser choice. It is, however, needless to dilate upon the comparative civilising influences of the Plymouth-Rock pilgrims and the soldiers of Cortez; of the skilful, sturdy agriculturist, creating the wealth which surrounds and blesses him, and the fevered, impatient gold-seeker. They are too vividly marked upon the surface of the two Americas to be either overlooked or mistaken, and perhaps nowhere more so than on the central and connecting portion of those countries, where everything has yet to be done to subdue and civilise the narrow strip of earth, and turn its unrivalled position to a great and beneficial use. The gold-gatherer—the man-slayer—has been there; the buccancer has hewed his desperate path across its rugged fastnesses; the enthusiast and schemer have led their votaries or victims to perish on its inhospitable shores; and all these have left the ‘gate of the universe’ as inaccessible, as wild, desolate, and savage as they found it. It still remains for the present comparatively peaceful age, with its vast resources and matchless energies, to realise the dream of preceding centuries by effectually breaking through this barrier to the intercourse of two worlds—an enterprise which not only the exigent demands of the vast and increasing commerce we have glanced at, but the voices of storm and hurricane which howl around the Capes, have long since proclaimed to be one of immeasurable importance and necessity.

There was something magnificently ludicrous in the notion which the rulers of Spain conceived—of keeping the discoveries of the immortal Genoese a close secret to themselves. That this idea was seriously entertained there can be no doubt. In 1517, an English merchant-ship which made St Domingo was fired at by the new authorities there, and driven away. The news of this incident occasioned great consternation in the councils of the home government; and although the zeal of the governor of St Domingo was duly commended, it was gravely suggested that the wiser course would have been to have seized the vessel and detained the crew, as it was now much to be feared that the sailors would not only, on their return to Europe, report their discovery, but teach others the route to the golden possessions of his Catholic Majesty. This brilliant scheme of looking up the two Americas as ‘treasure trove’ for the especial use and enjoyment of the finders not succeeding, it was determined to fortify the imaginary right of the monarchs of Spain to the undisturbed sovereignty and possession of countries of which no European had yet surveyed a hundredth part of the coast-line, by the authority of the church. In 1524 Pope Alexander VI., the father of the Borgias—Lucretia and Caesar—issued a bull, solemnly conferring the Americas, or New Indies, as they were termed, with all adjacent islands, on the king of Spain and his successors. This gift of the head of the church those monarchs applied all the power they could command to enforce and maintain, and they consequently soon found themselves in collision with thousands of the hot and adventurous spirits of Europe, who, despite the spiritual and temporal thunders wielded by the Spanish monarchs, resolved at all hazards on securing a share of the glittering prize which the genius and daring of the navigators of various climes had brought within the reach of a dazzled and astonished world. In 1526, two years after the issue of the bull, a Mr Tyson was deputed to the new countries as agent for a company of

English merchants. He was abundantly successful, and private enterprise was of course stimulated into great and constantly increasing activity by the profits which accrued to the adventurers. To check the audacity of the trespassers upon his new dominions, the sovereign of Spain instituted a coast-guard, whose duty it was to capture and slay all intruders upon the shores of the Spanish main and West India islands. A more hopeless task, powerful as Spain was before her gold and silver discoveries, can scarcely be imagined. To aid the otherwise altogether insufficient efforts of the *guarda-costas*, the terror of mutilation and torture was superadded to that of death by the Spanish authorities, and Europe rang with the stories, doubtless somewhat exaggerated, of cruelties practised by the Spaniards upon the luckless traders who fell into their hands. These iniquities were retorted upon the perpetrators with abundant interest. The American seas speedily swarmed with buccaneers, filibustiers*—Brethren of the Coast—consisting of English, Scotch, Welsh, and Frenchmen, whose self-imposed mission it was, whilst enriching themselves by trade and plunder, to avenge upon the Spaniard whatever wrong or cruelty he had inflicted upon their countrymen. These desperadoes soon became extremely formidable, and the entire power of Spain, fiercely and lavishly exerted, proved utterly insufficient to seriously check, much less to put them down. One man, a Frenchman of the name of Montbar, was so excited by a recital of the cruelties practised by the Spanish authorities, that he sold all he possessed, fitted out a vessel, sailed to the American coast, and became ultimately so terrible by his retaliatory excesses, as to acquire amongst the ‘Brethren’ the distinguishing title of ‘The Exterminator.’ A strange mixture of generous daring and remorseless cruelty appears to have characterised the doings of these men; and their religion, in a certain sense, was occasionally as conspicuous as their ruffianism. A French captain, of the English name of Daniel, shot one of his crew for disrespectful behaviour during the celebration of mass; Captain Richard Sawkins threw all the dice in his ship overboard when he found he could not otherwise prevent his sailors from gambling on the Sunday; and the first thing Captain John Watling did, on assuming command, was to order his freebooters to keep holy the Sabbath-day. These gentlemen did not, it must be remembered, wait to be themselves attacked, nor did they confine themselves to retaliation upon the Spanish authorities and forces for injuries inflicted upon others. They pounced upon every Spanish ship or settlement they were able to master, and commenced business the instant they arrived on the scene of action; in order, to use their own expression, to pay themselves beforehand (*se dédommager d’avance*) for any mishaps which might in the future befall themselves or their countrymen. The arrogant pretensions of Spain were also resisted by the sovereigns of England, though feebly and inefficiently; and it was not only in the harbour of Cadiz that Elizabeth’s sailors, in Drake’s expressive phrase, ‘singd the whiskers’ of the projector of the Armada. The English queen ridiculed the Spaniards’ assump-

* The origin of these names is curious enough. Filibustier, the French term, is a corruption of the English word Freebooter; and the term Buccaneer arose from the name ‘Boucan,’ by which the Caribbean Indians designated meat which they taught the ‘Brethren of the Coast’ to preserve in a peculiar manner, and which constituted the chief portion of the rovers’ food. Hence ‘Boucanier’—Buccanocr.

tion of exclusive sovereignty over regions which they could not even pretend proximately to occupy; James and Charles held the same doctrine; and Northern America, which Spain, finding no gold there, cared little about, was gradually colonised. The effective chastisement of the Spaniards in the American seas was reserved for the strong hand of Cromwell. Beneath the shadow of his terrible name the infant states dwelt in peace; the island of Jamaica was wrested from Spain; and the buccaneers were astonished and displeased to find their vocation suddenly gone by the appearance of the Protector's admirals in waters where the flag of England had never before waved in triumph and supremacy. The Restoration once more changed the aspect of affairs, and the sea-rovers and their foes were again engaged in incessant conflict. This was the period of the celebrated Sir Henry Morgan's exploits, the most redoubtable of the Brethren of the Coast, and a gentleman who, for his great and varied merits, or the presents he conferred on Lady Castelmaine, was not only knighted by Charles II., but invested with the deputy-governorship of Jamaica, and the presidency of the Admiralty Court there—in which capacities he had the pleasure and satisfaction of hanging a considerable number of his old friends and comrades who were so ill advised as to persist in a course which had led their old leader to dignity and fortune. The scene of the principal exploit of this desperado was the Isthmus of Panama.

He had conceived the magnificent idea of establishing an independent West-India sovereignty; and as a preliminary to his scheme, he was extremely desirous of securing the gate of the Pacific, and of enriching himself with the plunder of the city of Panama, and other depositories of the precious metals on the western coast of America. This enterprising and indomitable Welshman having got together, in December 1670, about 1500 ruffians, English and French, sailed for the Isthmus, captured the Island of St Catalina, where he left a garrison, and next stormed the strong fortress of St Lorenzo, at the mouth of the Chagres river. This done, he marched with the remainder of his ill-appointed, unprovisioned dare-devils across the matted and tangled wilderness to Panama. Ten days of intense suffering and hardship were passed before they arrived within view of the promised city, and then Morgan, with what remained of his half-famished followers, had to fight a disciplined force of between 2000 and 3000 men. He gave instant and unhesitating battle; the Spaniards were overthrown; Morgan took possession of Panama, then containing about 7000 houses, thoroughly sacked it, and deliberately carried off his plunder, together with a considerable number of captives, for whose release he extorted large sums of money. On reaching his ships, Morgan contrived, by various ingenious expedients, to get the mass of the booty on board the vessels of which the crews were English; and whilst the French portion of the expedition were regaling themselves on shore, the wily buccaneer sailed with his treasures for Jamaica, of which island he, as previously stated, not long afterwards became the deputy-governor, and chief Admiralty judge.*

Morgan's exploit was imitated in 1680 by Dampier and others, who, having made a treaty with the Darien Indians, the always inveterate enemy of the Spaniards, struggled at the head of something over 300 buccaneers

across the Isthmus to Panama. They were not sufficiently numerous to attack the city; but they consoled themselves by seizing some vessels in the bay, and plundering with tolerable success along the coast of the Pacific. This celebrated buccaneer thus describes New or Spanish Panama, which seems likely to regain all and much more than its former splendour:—‘About four leagues from Old Panama, near the river side, stands New Panama, a very handsome city, in a spacious bay of the same name, into which disembogue many long and navigable rivers, some whereof are not without gold; besides that, it is beautified by many pleasant isles, the country about it affording a delightful prospect to the sea, by reason of the variety of adjacent hills, valleys, groves, and plains. The houses are chiefly of brick, and pretty lofty, especially the president’s, the churches, the monasteries, and other public structures, which make the best show I have seen in the West Indies.’ He also speaks of the vastness of its trade, and in tolerably favourable terms of its climate. Dampier was a bold and skilful seaman, and some time afterwards reached the western coast of America by doubling Cape Horn. These were purely independent expeditions, it should be remarked—a revival, in fact, of the right or usage of ‘private war,’ and this time by no means confined to persons holding lands on knightly tenure. England, by the treaty of 1670, had solemnly agreed with Spain to discountenance her buccaneering subjects in the American seas; but the Brethren of the Coast paid slight attention to injunctions that were not enforced by cannon-balls, and the treaty, as we have seen, remained without result. Whatever, let us add, the merits or demerits of these famous buccaneers may have been in other respects, Colonel Lloyd assures us that they left a highly-favourable impression with regard to Englishmen amongst the Indians of the Darien Isthmus. The surveyor-general counts somewhat upon this feeling to induce them to co-operate in the construction of a ship-canal. ‘We love Englishmen’ is, he says, the every-day expression of the traditional respect for the countrymen of Morgan, Dampier, and others, which they are taught in childhood.

Matters thus progressed with varying fortune till the close of the seventeenth century, when the peace of Ryswick enabled the government of Spain to put forth all its strength in defence of their South American possessions, and a comparative calm ensued in those latitudes. It was at this time that the saddest episode in the history of the much-coveted Isthmus occurred; namely, the projection and failure of the memorable Scottish Darien expedition. Mr Paterson, a Scotch gentleman of a remarkably speculative and enterprising turn of mind, conceived the idea of securing the ‘door of the seas’—his own expression—by establishing a powerful half-commercial half-military colony to the eastward of Portobello, on a line of coast of which he averred the Spanish government were not the rulers, either *de facto* or *de jure*. Mr Paterson first proposed his scheme to the English government, by whom it was coldly rejected. He afterwards, by the zealous co-operation of Fletcher of Saltoun, obtained the support of the Marquis of Tweeddale, then chief minister of Scotland, and other influential persons, for his project; and the ultimate result was, that an act of parliament passed the Scottish legislature, and was duly consented to by King William III., authorising and incorporating the Scottish Darien Company. This was no sooner done than a sudden furor seized

the usually cautious Scottish people. Mr Paterson's estimate of the required capital was £2,000,000 sterling; and £400,000, a full half of the entire specie of Scotland at that period, was at once subscribed by the projector's countrymen. English merchants also applied for shares to a large amount, and the Hamburg capitalists entered eagerly into the speculation. This was scarcely to be wondered at, for, according to Mr Paterson, the humblest shareholder was certain to acquire enormous riches. The prize to be obtained, according to the projector's statement, as given in Sir John Dalrymple's 'Memoirs of Great Britain and Ireland,' was no less than the exclusive possession 'of the door of the seas and the key of the universe, which, with anything of reasonable management, would enable the proprietors to give laws to both oceans, and to become arbitrators of the commercial world, without being liable to the fatigues, expenses, dangers, or incurring the blood and guilt of Alexander and of 'Cæsar.' This tissue of extravagance and folly will give the reader some idea of the glittering prestige attached to the Isthmus of Panama by a certain class of minds, from the day when Nunez de Balboa descried from one of its hills the Pacific on the one hand and the Atlantic on the other.

In another document quoted by the same authority Mr Paterson says—'Trade will increase trade, money will beget money, and the trading world shall need no more to want work for their hands, but will rather want hands for their work.' Besides the gold which was to be had for the trouble of finding it, Mr Paterson proposed that a duty of 5 per cent. should be levied for the profit of the company on all merchandise passing the Isthmus, and 10 per cent. upon specie, gems, &c. It is not surprising that the avidity with which shares in this, under the circumstances, preposterous scheme were taken up, should have suggested to Law, as he afterwards declared, the notion of his far more audacious Mississippi project; but it is astonishing to find that the East India Companies, both of England and Holland, exhibited a stupid and envious dislike of the scheme, and prevailed on William III., notwithstanding his sanction of the Scottish act of parliament creating the company, to discourage and thwart the proposed emigrants in the basest manner. The Hamburg merchants, although they talked somewhat big at first, were induced to withdraw their subscriptions, and the English capitalists did the same, so that the entire pecuniary burthen of the project rested upon the Scottish people. They, however, abated not one jot of heart or hope. A number of war vessels were purchased in Holland, and the first part of the expedition, consisting of about 1200 men, set sail from Leith amidst the prayers and blessings of many thousands of their assembled countrymen. They reached the Gulf of Darien in safety, and established themselves on the coast in localities to which they gave the names of New Caledonia and New St Andrews. The government of Spain had been perfectly quiescent during the agitation of the project and the arrangements for carrying it out; but no sooner was the expedition arrived at the Isthmus, than they—secretly instigated, it was believed, by the English king—resolved to attack the embryo colony. The unfortunate Highlanders, decimated as they soon were by fever, hunger, and privations of all kinds, could still at all events fight; and Captain Campbell of Finab, a relative of the Athole and Breadalbane families, who had joined his countrymen with some followers, was chosen to command them. Cap-

tain Campbell had served in William's continental wars, and his military measures were prompt and decided. At the head of a few hundred picked men he made a rapid night-march to Tuburactu, where a large body of Spanish troops were posted, and surprised and scattered them. His victory was a barren one. On returning with his triumphant soldiers, he found the Scottish settlements beleaguered seaward by a Spanish squadron. Help there was none; and after a gallant but ineffectual resistance, the surviving colonists capitulated, with the exception of Captain Campbell, who, fearful of trusting to the tender mercies of the Spaniards, escaped overland, and ultimately arrived safe in Scotland. Paterson, who became temporarily deranged by the failure of his project, was amongst the survivors, and one of the few who regained their native shores. The second part of the expedition sailed before the fate of the first had been ascertained, and the whole affair terminated most disastrously. One curious cause of the breaking down of the undertaking was urged at the time. The General Assembly and Kirk of Scotland had sent out a number of divines for the spiritual sustainment of the colony. These gentlemen were very zealous in their ministry, and on the Wednesdays—set apart in addition to the Sabbath for religious exercises—kept the colonists at sermon and prayer for five hours consecutively, three ministers succeeding each other by turns, and all eloquent in depicting the punishment which awaited the guilty and impenitent in the world to come. This earnestness, which, in the northern temperature of Scotland, might have been edifying and instructive, had a very different effect under the burning sun of Central America. The men grew dispirited, lost their *morale*, and the worst results followed. But the ultimate failure of the ill-conceived project was certain from the first; and however much incidental causes might have contributed to hasten the catastrophe—the jealousy of the English merchants, and the bad faith of William III. being amongst the chief of these—the shipwreck of a scheme so flimsily based and rashly undertaken could by no skill or prudence have been long averted.

Sir John Dalrymple, who seems to have bitterly regretted the failure of Mr Paterson's colony, speculates in a very amusing manner upon the probable consequences which would result to the world from the occupation of the all-important pass of the Isthmus by the British states of America—an El Dorado where, according to him, any man of but moderate industry could pick up at least four ounces of gold per diem. 'Should this occur,' writes Sir John, 'to all nations their empire will be dreadful, because their ships will sail wherever billows roll (the junction of the two oceans is of course supposed to be effected) and winds can waft them, and because the people capable of subsisting either almost wholly on the produce of the waters by means of their fisheries, or on the plunder and contributions of mankind, if they choose to do so, will require few of their numbers to be engaged in manufactures or husbandry at home, and therefore, like the ancient Spartans, who defied the power of Persia, or the roving Normans, who pillaged the sea-coast from Jutland to Dalmatia, the occupation of every citizen will be not in the common employments of peace, but in the powers of offence and defence alone. Whether they will have arts or letters,' Sir John adds, 'will be quite a matter of chance. If they have, it will be a blessing; and if not, why of course—not!' We

must add that Sir John Dalrymple, after indulging in this alarming strain, himself considerably suggests a sufficiently potent antidote to the fears he had previously conjured up. 'Should the Americans,' he consolingly concludes, 'obtain exclusive possession of the gate of the oceans, all the trading nations of the earth will combine to wrest the passage of the Isthmus from them.' So that, in the event of the worst befalling, there would not, fortunately, according to this sagacious authority, be any great harm done after all. Sir John Dalrymple writes sensibly in other parts of his book.

Thus much for the history of this celebrated strip of land. We now proceed to review in detail the two schemes for constructing navigable ship-canals across the Isthmus, as well as that proposed for connecting the two oceans by way of the San Juan river and the Lake of Nicaragua; afterwards describing and discussing the physical and moral aspect and character of the different localities, upon a right knowledge and appreciation of which success must so greatly depend. But first, let us dispose of a question upon which there has been much disquisition—namely, the relative level of the two oceans at the point near which it is proposed to effect their junction. Our authority is Colonel Lloyd, whose experiments on the subject will be found detailed at length in the 'Philosophical Transactions' for 1830.

After 935 carefully-verified pairs of levellings in eighty-two miles, Colonel Lloyd found that the mean height of the Pacific at *high water* at Panama was 13·55 feet above the Atlantic at high water at La Bruja near Chagres. The time of high water at Panama and Chagres he found to be nearly the same at 3^h 20^m at full and change. At low water he states that 'the Pacific is *lower* than the Atlantic at low water by 6·51 feet. Thus it follows, that in every twelve hours, commencing with high tides, the level of the Pacific is first a number of feet higher than that of the Atlantic; it then gradually becomes of the same height, and at low tide is several feet lower. Again, as the tides rise, the two seas are of one height; and finally, at high tide, the Pacific attains the same number of feet above the Atlantic as before.'

'At Panama,' continues Colonel Lloyd, 'the extreme elevation and depression of the waters by occasional tides mark a difference of 27·44 feet; but the mean actual rise and fall two days after full is 21·22 feet.' At Chagres he found the rise and fall to be 1·16 foot. Half the mean rise and fall at Panama at spring tides being then 10·61 feet, and at Chagres 0·58 of a foot; and assuming half the rise and fall above the low water of spring tides to be the respective mean levels, it follows that the mean height of the Pacific at Panama is 3·52 feet above the Atlantic at Chagres. The summary of the matter may be therefore thus briefly given: height of the Pacific at high water, 13·55 feet above the Atlantic; height of the Atlantic at low water above the Pacific, 6·51 feet; mean height of the Pacific above the Atlantic, 3·52 feet.

The general scope of the different propositions now before the world may be thus stated:—

1. That of the surveyor-general, Colonel Lloyd, is to follow the course of the river Chagres till its junction, about four leagues westward, with the

THE ISTHMUS OF PANAMA.

Trinidad, and from thence to construct, says its author, 'such a canal as the Caledonian Canal, only not so extensive, to enter by Rio Grande, or otherwise, the beautiful Bay of Panama.' The Chagres debouches into the Atlantic at about the centre of the Isthmus, and the valley of the Chagres is tolerably level, the chain of hills called in the south the Andes, and in the north the Rocky Mountains, almost entirely disappearing there for a space of several miles. The Chagres river, which is navigable for boats to a considerable distance, is the present route to and from Panama and Portobello; but the land portion of the journey, which commences at Cruces on this river, is extremely rude and difficult, and during a considerable portion of the year entirely impracticable.

2. The plan of Baron Humboldt is to connect the Bay of Cupica in the Pacific with the Atlantic by means of a canal leading to the large Atrato river, which, the reader will perceive on glancing at the map, reaches the Atlantic at the southern end of the Gulf of Darien, many leagues to the left of Chagres, looking towards the Pacific.

3. The plan of the New York Company was to render the river San Juan de Nicaragua, which flows into the Bocca del Toro on the Mosquito coast, north-west of the Isthmus, and south of Cape Gracioso Dios, navigable to the great lake of Nicaragua, a body of water 150 miles in length, 60 in breadth, and 134 feet above the level of the sea.

It is useless to remark upon Colonel Lloyd's abandoned plan of connecting Navy Bay with the Pacific by means of a railway. The objections to such a project are patent upon the face of it, and as far as regards the requirements of commerce, a railway would be quite or nearly useless. It would make the transit across the Isthmus more pleasant for passengers, but that is all. The following paragraph from the 'New York Journal of Commerce' of December last, would seem, however, to indicate that Brother Jonathan is disposed to carry the project through:—'The Panama Railway Company are collecting materials and labourers with a view to commence operations as soon as the dry season sets in. Four hundred men, exclusive of officers and engineers, have gone out from the United States, and vessels laden with timber and other materials are leaving almost daily. Twenty-eight sail have left for the dépôt at Navy Bay, and six steam pile-drivers. The steamer *Gorgona* is to run on the river Chagres.' The notion of carrying timber from New York to one of the most finely-timbered countries in the world, is certainly an odd one, and throws doubt over the entire statement, especially after what we have heard respecting the New York and Pacific Ship-Canal Company. It is possible, however, that something in the way of a *plank* railway may be contemplated, which would certainly be a great improvement over the present rugged and toilsome track from Cruces to Panama. Let us now turn to the consideration first of Colonel Lloyd's ship-canal by

THE CHAGRES ROUTE TO PANAMA.

The point from which he proposes to start is not from the mouth of the river Chagres, where there is a bar with no great depth of water over it at low water, but from immediately close to Chagres, where is 'the extraor-

dinary indentation in the coast forming the beautiful and secure harbour of Navy Bay.' This haven the surveyor-general says 'is about five miles in width, has many coves and harbours within it, and six fathoms' depth of water, gradually decreasing to four and two fathoms. It has neither sunken reefs nor rocks, and may be entered day or night, and with a fresh breeze almost always blowing. Within three miles of this fair harbour runs the river Chagres, through a soft trap-rock, with a hard bottom—no shoals, rocks, or rapids—with nearly perpendicular sides, fringed in most places to the very edge with fine timber trees, and in others extending into verdant "playas," studded with hamlets and villages. Past La Bruja, and for miles upwards to the junction of the river Trinidad, this fine stream possesses considerable depth; so does the Trinidad for a short distance, showing a fine open country, refreshed by seasonable breezes, and presenting an eligible site for engineering works of every description;' and then comes the assertion, that all that is wanted is a Caledonian Canal, only less extensive, to connect the Trinidad with Panama—'Panama! once the emporium of the new world, and still a beautiful, and cleanly, and healthy city!' The great problem is thus solved—the 'gate of the seas' thrown open, and the union of the Pacific and Atlantic effected almost without an effort! Certainly a delightful picture, with its accompaniments of smiling 'hamlets and villages, and verdant playas, and seasonable breezes!' And still further to enhance the tempting beauty of his picture, Colonel Lloyd asserts that not very far from the proposed locality there is a second California, called Choco, and that the rivers of the Gulf of San Miguel are auriferous. In this he rests for authority upon Dampier, who says—'I have been told, besides what gold they got out of the ore and sand, they found lumps sometimes as big as a hen's egg, and bigger, wedged in between the rocks.' That which amazes one on reading the surveyor-general's descriptions is, that men reputedly sane should be steaming to and fro the old and new worlds, and toiling, and arguing, and imploring for the formation of leviathan companies with enormous capital, in order to reach the Pacific by lifting a ship over the Lake of Nicaragua, and hewing a gigantic way for her through miles of rock, when here is a safe, pleasant, inexpensive mode of effecting the same object close at hand! We fear greatly that this scheme, as stated by Colonel Lloyd, is mere coloured cobweb—an amiable delusion which will not bear a moment's serious examination. Who would believe, from his language, that the charming country he speaks of is utterly fatal to European life, if exposed to it for any length of time?—that it is there Portobello, the sepulchre of Europeans, covered with its funereal pall, crumbles and rots—there where Chagres welters in filth, misery, and fever; that there, and indeed throughout the Isthmus, the reverberation of the sun's rays in the narrow valleys are frequently as fatal to Europeans exposed to them as pistol-shots? Yet nothing can be more true. Grant all that is said of the beauty of the Rio Chagres, and Colonel Lloyd, we are aware, has been always consistent in his admiration of that river. Twenty years ago he gave a very flattering picture of it during a portion of its sinuous and broken course. 'Few rivers of its size,' he remarked, 'present more beautiful scenery on its banks than does the Chagres above Cruces. For miles together it is bounded by enormous abrupt masses of limestone, of the most curious and fantastic forms. Savannas

in other parts come down to the water's-edge, covered by a fine grass called *graminalotti*. The noble Bongo and Jiger trees, of which the fishes love the leaves, extend their branches across it, and the bed of various-coloured pebbles is in its shallowed parts distinctly visible. Canoes navigate this river, which frequently breaks into channels, forming small islets in its course as far inland as Capua.'

But what does all this prove as to the navigability of this picturesque river for ships of large tonnage? That is the real question at issue. It is not an affair of canoes, nor of steamers of light draught. We want a canal through which an Indiaman can pass, and in reply we are told of the exquisite beauty of the Río Chagres, and that all that is necessary is to continue the Trinidad river which meets it by a less extensive Caledonian Canal to the Río Grande, and thence to the Pacific! Was ever an important question so trifled with before? Then Río Chagres has a hard bottom! So very much the worse, for the indispensable task of deepening it is thereby rendered almost impossible; and even when you have cut through your three miles from delightful Navy Bay to the river, and made your Caledonian Canal, you will find that the merchant ships of Great Britain could as easily sail through the dense and tangled forest as up or along the two rivers!

Colonel Lloyd, it is true, states that the Chagres, up to its junction with the Trinidad, is of considerable depth; but this, if correct, only applies to about ten or twelve out of at least sixty miles, considering the sinuosities of the proposed route. Besides, this fact, like almost all others, as we shall presently see, advanced by the Colonel in connection with this vexed question, is flatly contradicted by numerous testimonies; and it is, to say the least, so loosely given by that gentleman himself, that, without for a moment doubting his perfect good faith, it seems impossible to attach confidence to either of his statements. At page 15 of a pamphlet recently published by her Majesty's surveyor-general,* the author says—'That river (Chagres) is generally from twenty-eight to thirty-six feet in depth up to the junction of the Trinidad, without either sandbanks or rock;' whilst at page 7 it is said—'The river Chagres, to the junction of the Trinidad, having, with the exception of one small rock about six feet under water, a uniform depth of from twenty to twenty-eight feet.' These contradictory and apparently haphazard assertions strengthen the fears suggested by the decriers of the Chagres route, who declare that the Chagres is not navigable in the dry season even so far as the junction of the Trinidad, except by vessels of very light draught. In the wet season too, there must be some unaccountable obstruction in this incomprehensible river, for at page 17 Colonel Lloyd observes—'There are great difficulties to be encountered, for I have been as long as five or six days going up the river from Chagres to Cruces during heavy rains.'

The surveyor-general further states that the Trinidad itself is navigable for heavy ships for a considerable distance, whilst Commander Maclean, who is said to have frequently visited the Isthmus, calls the Trinidad 'a rivulet' meeting the Chagres at about ten miles from its mouth. Nothing,

* On the Facilities of a Ship-Canal Communication between the Atlantic and Pacific Oceans through the Isthmus of Panama. By Lieutenant-Colonel John Augustus Lloyd. Clowes, London. 1850.

indeed, can convey a juster idea of the mass of contradictory statements and illusory assumptions with respect to this scheme of Colonel Lloyd's, than the discussions on the subject in the Institution of Civil Engineers, an abstract of which he has published in his pamphlet. We quote a few instances, which will both amuse and surprise the reader:—Colonel Lloyd states that the Isthmus possesses the most varied, abundant, and precious forests in the world, and an inexhaustible supply of building material of all kinds. At Panama, he says, there was a regular trade in building-timber from that port to Peru, and a saw-mill was established at Pacora, which had cut from twenty to thirty thousand planks per annum. Mr Evan Hopkins, on the contrary, who states that he was officially employed during the years 1847 and 1848 by the government of New Granada to survey and explore the Isthmus from Darien to Veracagua, positively asserts that there is no building-timber in any available quantity in the Isthmus, and that the Panama timber-trade is a pure fiction. 'Men,' he says, 'might be sent into the middle of the forests who would be months finding good building-timber, or even any fit for charcoal. He also knew the exports of the country well. At Panama there were not any; they got their timber from the Gulf of San Miguel.' Again, Colonel Lloyd asserts that limestone everywhere abounds throughout the Isthmus: the river Chagres itself, according to him, 'is bounded by enormous abrupt masses of limestone of the most curious and fantastic form.' Mr Evan Hopkins declares that there is not a particle of limestone in the Isthmus, either primary or sedimentary. 'He had made a very careful examination of the country, and the result of his investigation was, that he found no limestone—a fact with which the natives were well acquainted. They were obliged to procure their lime from the calcination of marine shells and coral rock from the Pacific.' This is pretty well, but the pleasant duet reveals other harmonies. Lieutenant-Colonel Lloyd says—'Food, consisting of fish, birds, and cattle, rice, maize, and fruit, is equally abundant and cheap.' All a mistake, rejoins Mr Hopkins, 'and fully proved to be so by the fact, that if the Indians of the Darien and Penonome did not supply the inhabitants of the Isthmus of Panama with food, they would scarcely be able to exist.' 'The Creole natives,' maintains Colonel Lloyd, 'are a hardy race, and in most cases willing and intelligent;' and in a letter published in the *Times*, he says the projectors of the ship-canal 'may count upon the Indians;' and that 'the population would gladly work for reasonable wages.' They are, moreover, 'a noble, high-couraged race of men.' Upon which Mr Hopkins remarks, that 'he considers the natives of the Isthmus to be the worst set of people, of all the Granadians, for manual labour; indeed he had reported to the government that in the event of any great work being undertaken, men of more industrious and active habits would be required! Mr O'Gorman adds, incidentally, with regard to this noble and intelligent race, as one reason against the formation of a railway, 'that it would require to be guarded at every 500 yards to prevent the iron being stolen by the Indians.'

The surveyor-general positively, as we have seen, asserts that all that is wanted to connect the Chagres with the Pacific is 'a Caledonian canal, but far less extensive.' The only mode of effectually doing so, avers M. Garella, a French engineer who was sent out to the Isthmus in 1844, is to make an open cutting, or he would prefer a tunnel through rocks of so hard a nature

that it could be cut with perpendicular sides. This tunnel, he estimated, would cost £5,560,000 sterling; but Mr O'Gorman is of opinion that it could not be executed for ten times the estimated sum, and would probably occupy one hundred years in its construction! Finally, for we are weary of quoting these evidences of inaccuracy, exaggeration, haste, and imperfect information, Lieutenant-Colonel Lloyd can confidently state that the country is generally more healthy than any of the West Indian islands and colonies—pointing, as corroborative proof of his assertion, to the unquestionable fact, that he had himself survived a two-years' residence there, and that several English ladies—one a member of his own family—resided four years in Panama, and came out alive! Commander Maclean's opinion is in remarkable contrast with Colonel Lloyd's. 'The climate,' he says, 'is most unhealthy (until you reach the Pacific) for Europeans to live in; and even animals, with the exception of pigs and mules, waste away and shortly die.' And, by the way, as if to show that there is no such thing as an indisputable Central American fact, the last-named gentleman sets down the dimensions of the great Lake of Nicaragua as only forty-eight miles in length, although admittedly from thirty-six to forty-five in breadth! We ought to add, that Mr Evan Hopkins, although totally opposed to Lieutenant-Colonel Lloyd's *facts*, agrees with him as to the superiority of the Chagres route over others. He, however, evidently does not believe, like the surveyor-general, in the navigability for large ships of either the Rio Chagres, Trinidad, or Grande; but he throws out a consolatory suggestion, 'that if a water-communication was once effected, the channel would soon be deepened by the aid of the oscillating action of the Pacific tides, assisted by dredging and other artificial means.' Remembering the hard bottoms spoken of by Colonel Lloyd, and the adamantine rocks of M. Garella, this scarcely seems a very hopeful resource; and we take leave of Mr Hopkins with the benevolent wish that he may be alive when the first heavily-laden Chinaman is enabled, by the oscillation of the tides and dredging, to get through Rio Chagres, Trinidad, 'Caledonian Canal,' or Rio Grande—an aspiration which we take to be pretty nearly equivalent to the Oriental salutation of—'May he live a thousand years!'

It will be admitted that statements so inconsiderate and contradictory, plans so immature and illusory, when put forth as the deliberate opinions of the eminent men composing the Institution of Civil Engineers, tend to throw discredit upon all schemes for efficiently connecting the two oceans; and assuredly nothing can more clearly prove the necessity of acceding to Colonel Lloyd's prayer for a competent survey and report, than the jumble of contradictions which we have quoted. That a ship-canal might be formed across this, the narrowest portion of the Isthmus, we are quite disposed to believe; but certainly shallow vessels sailing up the picturesque rivers Chagres, Trinidad, with a continuation of River Grande, is not what the people of Great Britain understand by opening the 'gate of the seas' to British commerce.

We will presently endeavour to give the reader what we believe to be a tolerably accurate description of the physical aspect of the Isthmus, and of the character of its inhabitants; but before doing so, let us hear what can be said for

THE ROUTE BY THE ATRATO.

It is probable this route might not have been thought of, or at least would never have met with influential countenance, had it not been for the prestige of Alexander von Humboldt's name. In 1803, though, as we have before stated, personally unacquainted with the locality, he wrote as follows:— 'To the south-west of Panama, and following the coast of the Pacific Ocean from Cape San Miguel to Cape Corrientes, we find the small point and Bay of Cupica. The name of the bay has acquired celebrity on account of a new plan of communication between the two seas. From Cupica we cross for five or six leagues a soil quite level, and proper for a canal, which would terminate at the *embocadura* of the river Naipipi. This last river is navigable, and flows below the village of Zitara into the great Rio Atrato, which itself enters the great Atlantic Sea. We may also say that the ground between Cupica and the mouth of the Atrato is the only part of all America in which the chain of the Andes is completely broken.' This latter observation of the learned baron is not quite correct; the chain of the Andes being as effectually broken in the valley of the Chagres. Not long ago Humboldt repeated his opinion of the feasibility of the Atrato route to Captain Moorsom, who saw him at Sans Souci; and the baron added, that he believed the geographical line of the coast was not accurately known, and that a more correct survey would demonstrate that there exists a narrower neck of land across the Scottish Isthmus than elsewhere!

Thus far this eminent person. Let us now see what his opinion is worth, supposing it to be entirely correct, with reference to the intention of creating a ship-way for the passage of the western mercantile navies of the world to and fro the East, without breaking bulk. The passage is, then, to be by the river Atrato. Well, the great Rio Atrato debouches into the Atlantic in the innermost recess of the Gulf of Darien, in 8° 12' north latitude. There is an ugly bar at its mouth, which at low water only five feet of water cover; but not far from the mouth of the river there is a tract of low, level land, easily cut through, and you are at once, without further impediment, in a noble river, which, fed by several affluents, is navigable, it is asserted, for vessels of *thirty tons*, as high, it may be, as Quidbo (Zitara), the capital of Choco—a distance of 350 miles from its mouth. This river, it must be remembered, does not run across the Isthmus towards the Pacific. Its course is nearly *parallel* with that ocean, so that if a draught of water sufficient for a vessel of thirty tons were all that is required, the slight craft, after sailing 350 miles up to Quidbo, would be very little nearer the Bay of Cupica in the Pacific than when she entered the Atrato. But there is no occasion to go so high up. At about 120 miles from its mouth, the Atrato is joined by an affluent flowing from the west, called the Naipipi River, which is navigable to—say within twenty miles of the Pacific. After that the continuation by canal will, we are told, and very probably truly told, encounter no serious engineering difficulty. The reader now perceives what the Atrato route means. It means that vessels bound for the East are to sail up the Atrato for 120

miles, enter the Naipipi, and issue forth into a canal which will float them into the desired Pacific. Always supposing—and this is the favourable estimate—that your vessel does not exceed thirty tons burthen! Now, what pure folly is this! We desire to waft our great merchant-ships across the Isthmus, and a number of gentlemen, with triumphant air and gesture, assure us that it can be easily managed by the Atrato route, always provided that the ship does not exceed thirty tons burthen! We know of no more silly jest than this; and our serious reply is—Can you deepen the Atrato and the Naipipi so as to admit the passage of our merchant-ships—the Atrato for 120 miles, the Naipipi for—say thirty miles? Can you undertake that there shall be at least thrice their present depth of water in the shallower parts of those rivers? By *dredging*, some gentlemen aver this can be done; but is it true, or anything like the truth, that it can? We all know it cannot, and therefore that the Atrato route, *as set forth by its advocates*, is mere delusion, if a real merchant-ship canal be meant and required. That you might reach the Pacific by water, starting from the Gulf of Darien by the Atrato, especially during the rainy season, no one disputes. From Quidbo there used to be a sort of boat-canal—of which the Spaniards kept the foolish secret as long as they could—which in wet weather would float a very light boat into the Pacific. But admitting all this—say that the emborcadera of Naipipi is so near to the Pacific that Captain Illingsworth's crew did really draw a six-oared boat from Cupica Bay to the emborcadera of the Naipipi in six hours—in two hours, if you please—and we repeat, *Cui bono?* What does that prove? The question propounded is, not as to whether the canal could be made from the Naipipi to the Pacific, but how a Chinaman from Blackwall is to sail up the Atrato and the Naipipi till she reaches the canal? There is another inducement very amusingly put forth by the promoters of the Atrato route, and by Colonel Lloyd. The land, they say—the bank-sides—could be very easily purchased of the Colombian government. With all the will in the world to pay their just debts, the Colombian rulers have not, it seems, the means of doing so. It has distressed them (morally) beyond description, to be obliged to tacitly repudiate the seven millions of money they borrowed of John Bull—at least that is the figure at which he states his bill—and it is conjectured that if the English creditors would take their claims out in swamp, or morass, or jungle, they, the Colombian government, would not have the slightest objection to assigning nominally what they possess nominally—for there is no government, properly so called, in the Isthmus—to the gentlemen who hold their promises to pay, in exchange for those documents. The figure for the lands on the Atrato ought not, at all events, to be high, even as against payment in Colombian bonds, according to Captain Charles Stuart Cochrane's report of the vicinity of that shining river. There are no tenants to oust certainly—the lands along the Atrato being '*tierras baldias*,' which signifies 'no owners:' and no wonder; for the gallant captain having landed to ascertain what sort of land it could be that nobody would be the lord of, found himself, after proceeding for a few yards, in an impenetrable morass. It is right also to state that Captain Kellet of the *Pandora*, who had heard of the easiness of access from the Pacific to the Naipipi, found, on sending some of his men to explore 'the five or six leagues of level ground' spoken of by Humboldt, that there

was a strange misconception upon the subject, it having taken them between three and four days to traverse a mountain pass, on their road to the river. The Atrato and Chagres routes, then, if a ship-canal be intended by the promoters—there are no shareholders as yet—are pure absurdities, judging solely by the statements of the persons who talk, and write about and think they advocate them. Whether a ship-canal—a true, veritable *ship*-canal—can be cut across from the Gulf of Darien, or from Navy Bay to the Pacific, is another matter. All we now say is, that the Atrato route and the Chagres route, as *proposed*, would not, if carried into successful action, be of any considerable worth or importance.

We have next to consider Brother Jonathan's Nicaraguan scheme; but before doing so, it will be well to present the reader with a general view of the geological, vegetable, and animal life of the Isthmus, premising only that the chief evils we are about to enumerate would certainly disappear before the health-giving, civilising influence of human industry.

PHYSICAL ASPECT, &c. OF THE ISTHMUS.

The general aspect of the Isthmus, then, except in the valley of the Chagres, where the Cordilleras, or the Andes and Rocky Mountains of South and North America, completely disappear for a few miles, is mountainous and rugged; the base of the hills, which nowhere exceed above 1200 feet in height, being skirted with fertile plains and green savannas. The Northern Cordillera exhibits the first indication of depression in the province of Nicaragua, and again elevates itself in Veracagua, where it becomes a fine table-land. The insulated conical rocks which dot a portion of the Isthmus, thicken towards the east of the Chagres river, and becoming connected, form a small Cordillera, which runs from about Portobello to Mandingo or St Blas Bay, where a second but less marked break occurs. The ingredients of these hills, according to Colonel Lloyd, are hornblende, jasper, hornstone, and trap; porphyry, basalt, agate, and quartz rock. The stones at Portobello have the volcanic character; and the sand on the beach is of a dark colour, like that of Fernando Novonha. The streets of Portobello are paved with basalt nodules. Limestone is the prevailing rock, which is skirted on the south side with indurated clay, and on the north with coral rock. The latter is impregnated with a singular gelatinous matter, which imparts to it the property of firmly adhering, under water, to whatever it comes in contact with. It is easily dug out of the earth, and once exposed to the air, becomes hard and close, and is excellent building material; so also is the indurated clay. Besides limestone,* flint, calcelony, jasper, and ironstone are found in the interior; and near Gatun, on the river Chagres, there is a very fine firestone, of great utility in the construction of grates, or other articles which are required to resist a great degree of heat. There are two gold mines in the Isthmus—Santa Rita and Pequeni—very indolently worked, and the produce of which is therefore in the present day not very

* Mr Evan Hopkins's account is in opposition to this, not only as regards limestone, but the materials used in the construction of Portobello, which is, he says, entirely built with coral rocks.

great. Copper and iron are reported to be abundant, and mercury and tin are said to be found. Colonel Lloyd speaks in high terms, as we have seen, of the vigour and variety of the woods composing the thick forests which must be thinned and cleared before the Isthmus, or any considerable portion of Central America, will be habitable for Europeans. He reckons nearly one hundred varieties of trees, many of them yielding splendid dyes, hitherto unknown in commerce, and sweet-scented gums. The milk-tree (*palo de vacca*) also flourishes there, and so does the vanilla plant and the caoutchouc-tree. Most of the fruits of intro-tropical climes are to be found, and rice and Indian corn flourish luxuriantly.

The climate, in the present uncleared and uncultivated state of the Isthmus, is undeniably a wretched, and to Europeans a deadly one. There are two strongly-marked wet and dry seasons. The dry season commences at the end of December, and concludes in April. In January, February, March, and April, not a drop of rain falls, while in the other months of the year it comes down in torrents—cataracts, almost without cessation; the rain-clouds gathering densest, as might be expected, about the woody heights. However favourable this alternation of drenching rain with dry aridity and intolerable heat may be to tropical vegetation and sliny reptile life, it cannot but have a very baneful influence under the most favourable circumstances upon the organization of Europeans. Towards the end of June a remarkable phenomenon occurs. Regularly on the 20th of that month the rain ceases, and the unclouded sun shines out brilliantly for five or six days. This brief season is called *El Veranito di San Juan* (Little Summer of St John). Panama appears to be much the best situated as regards climate. There the thermometer ranges in the rainy season from 82° to 87°, and in summer from 90° to 93°.

Insect life in this woody, swampy country, is of course especially active and tormenting. Mosquitoes swarm in every direction, and there is an especial and more insidious plague, no larger than a grain of sand, called *agganapites*, or ticks, of a bright vermilion colour, and quite beauties under the microscope. These abound, and insinuate themselves into the ears, eyes, mouth; the minutest spot of flesh exposed is instantly covered with them; and so pertinaciously do they stick, that it is with some difficulty they are brushed off. There is also an active worm called in its native haunts the '*come genté*,' which acts as a borer, like the '*teredo*,' penetrating through a bale of goods in a week! As some compensation for these plagues, the wild honey-bees, which are very productive, have no sting. Fire-flies also are numerous and exceedingly brilliant. The dark, imperious woods, moreover, abound with tiger-cats, wild boars, monkeys, pumas, panthers, serpents, vipers, and other agreeable varieties of animated nature; and the banks of the rivers, especially that of Chagres, swarm with reptile life, developed in an extraordinary degree, and consisting chiefly of huge crocodiles, snakes, scorpions, toads, and lizards. Less accidents to human life occur from these venomous plagues than might be expected. All that is required is a little circumspection. Panthers and pumas regard man as a very dangerous neighbour, and unless sorely pressed by hunger, or forced to fight in self-defence, incline to have nothing to do with him; and serpents, however venomous, if you are careful to conduct yourself civilly, and not tread rudely upon their tails, or appear about to do so, will usually let

you pass quite close to them without molestation. The Indians avoid going out at night, lest they should inadvertently disturb the serpent slumber of the forest borders, and get sharply rewarded for their clumsiness; and this notwithstanding they are said to possess a 'contra,' or remedy for serpent-bites if applied in time, besides a 'charm' which many believe to be still more efficacious, consisting of an alligator's tooth stuffed with herbs, compounded and mumbled over by some old Indian woman. This is worn about the neck.

The entire population of the Isthmus—which has nearly as large a surface as Ireland—when the last census was taken, was only 101,550 individuals of all ages and colours. It is composed almost entirely of blacks, mulattos, Creoles, and the aboriginal Indians. The latter race is divided into the Mandingo, or St Blas Indians, and the Valientes. The Mandingoes do not average above 5 feet 2 inches in height, but are full-chested and broad-shouldered, with 'foreheads villanous low,' but lips not over-thick. They subsist chiefly on turtle and fish. The Valientes are said to be somewhat taller than the Mandingoes, but in other respects closely resemble them. Their habits are of the coarsest and simplest kind: a rude hut is quickly constructed and fastened firmly together with vines, split branches of the wild palm serve for a roof, a few stones suffice for a fireplace, and with an iron cooking-pot the establishment is complete. The same incurious, indolent contentedness, characterise more or less the other natives of the Isthmus, not even excepting the deteriorated European race who claim their descent from old Spain. At Panama, indeed, a taste for luxury in some degree exists, and there are schools there, but the pervading characteristic of the population is languid indolence; and it is generally esteemed hopeless to expect a continuous supply of labour for the great work or works in contemplation from the inhabitants of any portion of Central America. The women of Panama are described as very gentle, superstitious, amiable, and ignorant. Their gala-dress, as described by Colonel Lloyd, is a very brilliant one:—'A loose shift of beautiful cambric, with innumerable and immense frills richly worked with lace, is, with a petticoat of the same material, fastened at the waist by several massive, chased, gold buttons. Round the neck are several gold chains, with pearl rosettes, crosses, and rows of pearl; the earrings are of the shape of a telegraph, and reach nearly to the shoulders; the fingers are covered with rings, and various combs, studded with rows of pearl cased in gold, are placed, together with a massive gold bodkin, to great advantage in beautiful hair, which is plaited in two tails down the back. The feet are barely introduced into slippers turned up very much at the toes, and also richly ornamented.' Panama boasts also of its richly-ornamented churches; and the islands which dot the bay are so many pleasure-gardens for the solace of the wealthy portion of the inhabitants of the city, which is, moreover, very tolerably supplied with provisions, especially fish, amongst which the shovel-nosed shark is conspicuous and plentiful.

THE NICARAGUAN ROUTE.

The foregoing *coup d'œil* over the varieties of the Isthmus is not very flattering, but we shall presently see that the local characteristics of the

San Juan River and neighbourhood are not more inviting. We now come to the consideration of the third and last scheme for constructing a ship pathway between the oceans—that of the New York Company, which until lately was supposed to be earnestly intent upon the magnificent enterprise of which they had improvised so imposing an outline. Their published scheme was to render the river San Juan de Nicaragua, which flows into the Bocca del Torro on the Mosquito coast, at Grey Town, as it is now called, north-west of the Isthmus, and south of Cape Gracias à Dios, navigable for large ships to the great lake of Nicaragua, a body of water 140 miles in length, 40 in breadth, and 134 feet above the level of the sea.

The difficulties of this project are immense, but all perhaps surmountable, with the exception of the *labour* difficulty. There is, to begin with, a bar at the mouth of the San Juan, which is a serious embarrassment, although it might be perhaps eluded; then, to raise a ship to the lake, the river must be locked: no less than ninety locks, it is said, will be required, and it is doubted that the necessary water can be obtained! Commander Maclean states, moreover, that the San Juan cannot by any means be deepened to more than fifteen feet, and he is a stout advocate of the Nicaraguan scheme. Once the ship is raised to the lake, the further distance is not great. The western shore of this inland sea is but about fourteen miles distant from the Pacific, but this space consists almost entirely of lofty rocks. It is a received axiom in the present day, that the achievements of engineering science are only limited by expense; and it is therefore quite probable that an able engineer, sufficiently supplied with labour and capital, would find no insuperable difficulty in cutting a passage from the lake sheer down the rocks, or of boring a tunnel through them sufficiently large for the passage of the largest ships with their lower masts in. But there exist difficulties, as we shall presently find, upon the showing of the most eager and enthusiastic promoters of this and similar plans, against which mechanical science and skill can avail nothing—difficulties necessitating combinations and exertions which, to speak with becoming diffidence, appear to render it extremely doubtful that the enterprise can be accomplished by the exertions of private capitalists, whose zeal will of course be bounded and controlled by the expectation and probability of a reasonable dividend on the amount of capital required.

This Nicaraguan scheme was the favourite one a short time since, inasmuch as, on the 19th of April last, a convention, guaranteeing the neutrality and independence of any exclusive control by any nation of the proposed canal, was signed at Washington by John M. Clayton and Sir Henry Bulwer, and has since been ratified by the British government. We will presently give the substance of the articles of this convention, which is a very creditable one to both governments, evincing as it does a greatly-improved spirit of international negotiation; but, first, it may be as well to glance at the feasibility of the project, taking for our guides the statements of its promoters.

Mr Byam, who has recently published his '*Wanderings in some of the Western Republics of America*,'* and who is a vehement supporter of the plan supposed to be contemplated by the New York Company, thus speaks

* London: T. W. Parker.

of the San Juan river, which has to be 'locked' and deepened for about 120 miles:—'On each side of the river is an immense dense forest, composed of most enormous trees, which overshadow as thick and impenetrable a jungle of matted underwood as can be met with in the whole world. For almost the entire length of the river, I doubt that any man has ever been twenty yards into the forests on either bank, and I am pretty sure he could not have been a hundred. The forest is full of wild beasts and snakes, and the vapour from the banks of the river, where the leaves have been rotting for thousands of years, is pestilential and deadly. The woods and forests must be cleared away for some distance on each side the river, and *this work* may be very much aided by the native labourers, who are first-rate axe and bill-hook workmen. The roots must be extracted, and the whole burnt, when I believe the ground on each side of the river will be found nearly on a level, and only a few feet above the river. I judge from the tops of the trees appearing so level in long reaches of the river.'

The entire country, in fact, between the Bocca, into which the river San Juan falls on the Mosquito shore, and the great lake of Nicaragua, is a dense mass of forest and matted jungle, and no supplies of food worth speaking of for the workmen are to be met with till seventy-nine miles of the works are accomplished. There are no cattle, animals, or fish, to be met with between the Bocca and the lake except 'wild beasts, snakes, fresh-water sharks, and a few coarse cat-fish.' Provisions for the Bocca are either brought from Granada in piraguas, or scantily supplied by the Mosquito Indians. Overseers and foremen of the works, Mr Byam opines, should, if possible, have been acclimatised; and if they spoke Spanish, so much the better; but their situation would not be very enviable. It would be better when they reached the lake, where they might meet with some comforts they had before been deprived of. The difficulty with respect to provisioning the men is of course a formidable, but not an insuperable one, provided of course that expense be not an object. The river San Juan, which varies from 9 to 20 feet in depth, and is broken by numerous rapids, extends in its sinuous course 160 miles. There is also, as we have said, a bar at its mouth, on which it is gravely doubted that there is sufficient water at the most favourable tides to float an Indiaman. In fact one of the steamers sent out by the New York Company stuck there, and was with difficulty got off. It was, however, strenuously maintained by the sanguine promoters of the undertaking that a canal in aid of the river was of the easiest execution, a very few locks being necessary to raise a ship more than 130 feet above the level of the ocean; and those locks would always be served by the great lake above their level, as well as by the river itself, which in some places would float the largest ship. The great difficulty, we are told—though that is not much—is the cutting a clear channel through the rocks on the western side of the lake, or boring a tunnel through them sufficiently large to permit the passage of the largest merchant-ship. This difficulty may, however, it is asserted, be easily overcome by an adequate supply of labour to be depended upon. This may be so; but where that reliable labour is to come from must be in some way satisfactorily explained before men desirous of aiding in so manifestly useful a work part with their capital. As a mere question of engineering skill, the tunnels on the Dover line of rail may have presented

difficulties as great, if not greater, than any likely to be encountered in the formation of the proposed canal; but the pinch is in the labour portion of the problem. Where do the projectors think to procure it?—or do they intend relying on the languid, indolent, half-Indian, half-Spanish race of Central America?

After passing the western rocks there would be little difficulty, as from these to the Pacific is almost a dead flat, presenting no obstacle to the formation of a canal whatever; and deep water is met immediately on reaching that ocean. Good harbours may be formed, it is stated, in the bight of Papagayo; but if the opening into the Atlantic should be further up towards the north, and be connected with the pestiferous creeks or esteros near Realejo, few Europeans would be able to resist the vapours that rise from the black slimy mud which at low water stagnates round and about the roots of the Mangolian trees.

The agricultural and pastoral capabilities of this portion of Central America are, we are told, very considerable, and capable of great extension. Wheat will not grow to ear in Nicaragua, but rice and Indian corn might be abundantly produced. Cattle, too, are abundant in many parts; but sheep and goats are out of the question, at least till the country is cleared and populated. The panthers and pumas would carry them off, or if that evil could be guarded against, the agganapites would infallibly worry them to death. There are deer, but they are scarce. Turkeys, and poultry generally, are plentiful. The cost of a fowl is about fourpence. Pork is tolerable, but the excessive heat of the weather necessitates the immediate consumption of the entire animal. It is therefore an expensive dish for a small family. There are two sorts of wild hogs—the Javalino, a large wild boar; and the Savalino, a musk-pig. The former is said to be delicious; the latter detestable. Of fruit there is said to be no great variety, the chief being melons, plantains, and bananas. Peaches or nectarines are unknown, and the pine-apple and mango, from neglected cultivation, are worthless. Vegetables of the gourd kind flourish, and vegetable marrow and the alligator-pear are abundant. Milk and cheese in the valley of Comayagua are abundant. The sugar-cane is luxuriant; indigo, cotton, and cochineal, may be profusely grown or reared; and there are supposed to be valuable mines of gold and silver not far distant from the line of the proposed canal.

The dispute relative to this embryo project between Mr Squiers and Mr Chatfield arose out of the concession made to the New York Company, under the auspices of the former gentleman, by the Nicaraguan government to construct their route to the Pacific by the San Juan river and over the great lake. The state of Nicaragua is bounded on the south and west by Costa Rica and the Pacific, on the north by Honduras, and—the important point—on the east towards the Atlantic by the state of Mosquito, over which Great Britain claims to exercise a species of protectorate, guaranteed by treaty. The San Juan flows into the Atlantic on the Mosquito shore, and Mr Chatfield consequently disputed the right of the American company to take possession of the river San Juan for any exclusive purpose whatever without the leave of Great Britain. The news of this *imbroglio* arriving in the States just as the Californian fever was at its height, and men were ready to move heaven and earth for a direct and

rapid passage to the Pacific, created considerable excitement there; and the Chatfield and Squiers correspondence became suddenly transformed in the eyes of the New York quidnuncs into alarming state papers, from whence nothing less than war could possibly arise. Mr Chatfield appears to have been apprehensive, like Sir John Dalrymple, that the Americans would lay sudden and violent hands on the Pacific, and insist upon keeping it all to themselves, and he resolved to nip so audacious a project in the bud. He protested accordingly; Mr Squiers replied by a counter-protest; and the hotter spirits of the States were getting pretty considerably ryled upon the subject, when it was announced that the two governments had disposed of the affair of the canal in an amicable manner, and that nothing more remained but to forthwith set about constructing it. This treaty between Great Britain and America, entered into from a desire 'to consolidate the amity which now so happily subsists between the two powers,' by the settlement of all questions connected with the proposed route from the Atlantic to the Pacific by the river San Juan, and over or about the lakes of Nicaragua or Montagua, or either of them, is also expressly stated to apply, in principle, to any other mode of transit across Central America, whether by railway or otherwise, which may be at any future time constructed; and however long, therefore, it may be before the enterprise is successfully concluded, any international dispute or rival antagonism is so far happily out of the question.

The first article of this convention runs as follows:—'The government of the United States and Great Britain hereby declare that neither the one nor the other will ever obtain or maintain for itself any exclusive control over the said ship-canal, agreeing that neither will ever erect or maintain any fortifications commanding the same or in the vicinity thereof, or occupy, or colonise, or assume, or exercise any dominion over Nicaragua, Costa Rica, the Mosquito coast, or any part of Central America; nor will either make use of any protection which either affords or may afford, or any alliance which either has or may have, to or with any state or people for the purpose of maintaining or erecting any such fortification, or of occupying, fortifying, or colonising Nicaragua, Costa Rica, the Mosquito coast, or of any part of Central America, or of assuming or exercising dominion over the same.' The second Article enacts in similarly iterative phrase, that in case of war between the countries, the canal is to be neutral territory, and not to be molested by either of the belligerents; and that this inviolability is to extend to such reasonable distance from each end of the said canal or pass as may be hereafter determined. The third Article provides that parties contracting to construct such canal, after having obtained the consent and authority of the local government interested, shall be protected by the contracting powers against any unjust detention, seizure, or any violence whatsoever. Fourth, Great Britain and America to use all their influence to induce the local governments to erect two free ports or harbours at each end of the canal. Fifth, when complete, the canal to be guaranteed from interruption or seizure, but conditionally only that all shall be fair, and no unjust favouritism of one nation over another be shown by the company. If the company should transgress this wise and equitable regulation, each of the powers may adopt such measures, or seek such redress, as may be deemed advisable: six months' notice being pre-

THE ISTHMUS OF PANAMA.

viciously given to other guaranteeing states. Sixth, other powers to be invited to join this compact.

Whether the Pacific and Atlantic Ship-Canal Company succeed or not in their present project, the foregoing convention gives just reason to hope that the desired object will be at no distant day accomplished. There can be in future no idle national rivalry in the matter; and if the exertions of private companies should unfortunately fail to arrive at the hoped-for result, there will be no insurmountable obstacle to a governmental effort on the part of the principal maritime powers to attain success. As yet, as the surveyor-general states, there has been no authoritative report upon the feasibility or of the best mode of constructing a pass through or over the Isthmus, or the adjacent territory, by any engineer of eminence. Mr Dyam, who speaks so confidently upon the merits of the Nicaraguan scheme, subscribes himself as 'late of the 43d Light Infantry.' He consequently, whatever his general intelligence, will not be considered by the world as an authority in a matter which would task the highest professional skill to determine accurately. Till such an authoritative report by a man of unquestioned scientific eminence be made, it seems unreasonable to suppose that capitalists will be eager to venture their money in a gigantic undertaking which they have no reasonable assurance can be brought to a successful issue. The labour difficulty can also, as we shall presently endeavour to show, be triumphantly met by a combined national effort, Great Britain especially possessing peculiar facilities for overcoming this formidable obstacle.

GENERAL OBSERVATIONS.

The magnitude of the object purposed to be realised can scarcely be exaggerated. The dreams of Paterson and others were suggested by a waking and sober reality. The Isthmus of Panama will prove in very truth the gate of the universe to those who can utter the 'Sesame' which shall unlock it. Especially to Great Britain, we repeat, would the bringing of China, the Eastern Indies, and other now immensely distant countries into closer proximity with her industrial hives prove of immense—incalculable advantage. And should not, therefore, the powerful British government ascertain, by some moderate outlay of a portion—a small, and comparatively insignificant portion—of the wealth poured into the national coffers by the industry of the people whom it represents, the best, and least expensive, and onerous mode of effecting a junction between the two world-embracing oceans—inform the mercantile community whether, in truth, there can be created no better mode for the transit of a ship across Central America than lifting her over the Lake of Nicaragua, and thence hewing a way for her through miles of rock to the Pacific Ocean?

We do not, let it be perfectly understood, profess to give or insinuate an opinion as to the precise locality most eligible for this great work; but we do say, that before British capital is irretrievably ventured in such an enterprise, the British people, considering the national and vast importance of the prize to be obtained, have a right to look to the government for wise guidance and advice. And nothing is more certain than that, until sound,

trustworthy knowledge on the matter is obtained, inconsiderate outlay of capital will rather, by creating an example of failure and loss, retard, instead of forwarding the opening of the 'door of the seas.'

And now a few serious words upon the real and almost insurmountable difficulty which besets this great enterprise. Where is the efficient necessary labour to be found? By what reward, compatible with the chance of a dividend on capital, can men be induced to perform the heavy work required in that pestilential climate? What amount of wages will induce a European labourer to expose himself to the deadly exhalations of the putrid and decaying vegetation of centuries? Or perhaps you will depend upon *native* labour—Colonel Lloyd says you may count upon the Indians, 'who never since their existence bore the yoke of a European.' We have before quoted the substance of the surveyor-general's remarks upon this subject, but it may perhaps be as well to give them literally:—'The population would gladly work for reasonable wages. Part of a fine country might be possibly exchanged, in purchase for our almost valueless "Columbian Bonds." Finally, a philanthropic sentiment might be profitably carried out, for we should have for our neighbours some 150,000 of a noble and high-couraged race of Indians, who never since their existence bore the yoke of a European nation, and are yet unconquered, and who from their childhood have been taught to lisp "Me love Inglisman." Their first connection with Englishmen originated with the buccancers, and they have since kept up a trade with the Americans, but will hold no intercourse with Spaniards.'

We have quoted Mr Hopkins's opinion of the value of this statement, and must confess that we ourselves don't believe a word about exchanging bad bonds for good land, nor in the noble, high-couraged race (in so far, we mean, as the nobility and high courage would make them good, willing navies at reasonable wages), nor in their vehement passion to work for Englishmen, out of respect for the buccancers. We look upon all that as mere amiable moonshine, and beg to call another witness, Mr Byam, who thus speaks of the reliable worth of the native labourers, who are 'first-rate axe and bill-hook men:'—'If an accident happened from a land-slip, and the dependence was upon native labour, all hands would strike, and leave the work of months to be destroyed by a few days' rain.'

There is another testimony to the same effect—that of Mr O'Leary, British consul at Bagota, who thus writes about the canal proposed between Naipipi and the Pacific:—'As far as I can learn, fewer obstacles are to be encountered from the nature of the soil than from the insalubrity of the climate, and the want of labour and provisions in that quarter.' In truth, it is simply absurd to pretend that the Indians can be relied upon for serious, continuous work. Mr Byam, very rashly it seems to us, depends upon an adequate supply of European labour to accomplish 'the magnificent canal between the Pacific and Atlantic,' which, he says, might with ordinary energy be accomplished in three years. We very much doubt, however, that such labour can be procured, at all events by any inducements private companies can offer. Forced labour, by which in ancient times such works were accomplished, is in these days, whatever may be said to the contrary, out of the question; for it is impossible to suppose either the British or American peoples would permit the employment of convicts,

as Colonel Lloyd and others have suggested, on such a work beneath a tropical sun.

Unquestionably impossible, and yet her Majesty's surveyor-general deliberately urges it, albeit a considerable portion of the work would, according to his own scheme, have to be executed on the Chagres shore, which even he admits to be deadly and swiftly fatal to European life. Forgetting, or doubtful of his eulogies on native labour, he thus argues the expediency of employing British and Bengal convicts on the proposed works:—

'The ultimate success of such a work would depend much on the description of men who were employed. In the "Bengal Hurkaru," it is proposed that Great Britain, France, and America should each contribute a certain number of convicts; but such a concentration of vice would be highly objectionable, though this could not be urged against the employment of two classes of convicts from countries under the same dominion. The deportation of felons from this country to the Isthmus, while helping to relieve the embarrassments of the home government with regard to the *satisfactory location of criminals*, would render their labour available towards the completion of one of the greatest and most useful projects ever yet attempted; at the same time, *the opportunity for reclaiming those in whom any shadow of morality yet remained* would be as abundant, and at least as available, as in the larger penal stations. The narrow neck of land forming this portion of the Isthmus, although communicating with two vast continents, would be almost as secure as a prison-house, only requiring a small portion of the coasts to be guarded. To the south, the isolated hills and the small range of mountains are inhabited by the Mandingo Indians; a fierce and jealous race, with whom a runaway convict would find no shelter. The lower lands and savannas are also to a certain extent in their possession; while further south-west, and extending towards Point Guarapachin and the river Choco, the whole country is guarded by the powerful and warlike race of Bayamon Indians, who the Spaniards admit were never conquered. They hate even the name of a Spaniard; but it is certain that it would be easy for the English to enter into a friendly treaty with them, to arrest all convicts attempting to pass through their territory; the only difficulty would be so to control their zeal, that they should bring a living prisoner instead of merely his head. To the north, an efficient barrier would also be found in the mountainous district and table-lands of Veragua, and the eastern coast could be safely guarded by the Mosquito Indians. . . . The next class in the scale of utility would be convicts from Bengal or the other presidencies. The similarity of the temperature and climate of the Isthmus to their own, and their power of enduring fatigue under a tropical sun and during rains, would render them well suited as labourers for such a work. . . . Fatigue parties, under military discipline, might be obtained from Africa, or from the surplus population of the West Indies, and a very powerful resource might be counted on in the Isthmus itself.—&c. &c.'

This delectable proposal for 'relieving the embarrassments of the home government, with respect to the satisfactory location of criminals,' is very much of a piece with the declaration of an irascible Orangeman—that the only cure for the agitation and evils of Ireland would be to lay the island under water for four-and-twenty hours. We have no doubt that there is 'snug lying' in the Isthmus, and that so far the location of the wretched out-

casts, especially to those 'in whom any shade of morality yet remained,' might be satisfactory enough, and we are quite sure would speedily be deemed by the victims themselves as desirable, as assuredly it would be swift and certain. How any man in his senses can fancy the British government possesses the power, even if it had the will, which nobody will believe, to send Englishmen, culpable, tainted, as they may be, to perish by pestilence under a guard of wild Indians, is indeed a marvel. As to the surplus population of the West Indies, that—except indeed the colonel means the white planters, who, according to the newspapers, are still treading the eternal round of never-ending ruin, which we do not suppose—that, we say, is a figment of the surveyor-general's brain. Equally visionary is his subsidiary patriotic vision of a British Panama colony, based upon a convict foundation, proving ultimately 'a human barrier of such formidable power,' as to hold any attempt of the United States in check towards aggrandisement and increase of territory. Before leaving Lieutenant-Colonel Lloyd, it is our duty to mention that he states 'the remains of the Scottish Darien Company are still reported to exist on the north-west shore in about 9° 30' north latitude, and 77° 36' longitude;' but he very perplexingly adds, that the proofs of this—as we understand him, for he surely cannot mean proofs of the location and failure of the company, unfortunately as notorious as the noonday sun—must be sought for in Edinburgh. He further says, 'there can be little doubt that a regular grant from the Spanish authorities had been made,' which only proves that a gentleman may be a very capital engineer and a very bad historian.

Valueless, however, as Colonel Lloyd's suggestions, just quoted, may be in other respects, they emphatically corroborate the widely-entertained conviction, that the chief and only real difficulty, in the great task of effecting a junction of the Pacific and Atlantic Oceans, of throwing open that very desirable gate sufficiently wide for a China or Indianan from Blackwall to pass through, is the utterly insufficient supply of acclimatised labour to be found in or near the Isthmus. Now how is this want to be supplied, especially by private capitalists? One American gentleman suggested the purchase by the New York Company of 2000 or 3000 negroes, the survivors, if any, to have their freedom guaranteed them at the conclusion of their labours. This plan, however, supposes a sacrifice of dollars scarcely consistent with the probability of a decent dividend on capital. The work is a tremendous one, and thoroughly impossible for European labourers to undertake, whatever inducement might be held out, in such a climate. The Caribbean shore throughout its whole extent is rock and thick-matted forest to the water's edge.

There appears to be a growing conviction that a powerful government, or combination of governments, can alone face the inherent difficulties of this long-contemplated enterprise. The labour problem especially seems to us incapable of solution save by a government, and that government, too, one of vast and peculiar resources. The negro organization is the only one, experience has abundantly testified, which can endure severe labour in such a country. The European labourer, if lured to the work by dazzling promises, would soon sink under his task, if the Californian temptation did not induce him to abandon his engagement almost as soon as he entered upon it. And the cost, too, of European labour, if it could be procured at

all! The expense of feeding hundreds, thousands of men, especially in the San Juan river, by supplies brought seaward—the least expensive mode! The capital required for such an undertaking, so conducted, would be enormous—frightful; and a return, in the shape of a reasonable interest, would soon be found to be out of the question. Purchases of negroes in the United States, to be afterwards freed, as proposed by Mr Willsden, could not, consistently with the hope of a dividend, be ventured upon; but what reason, either on the score of cost or of humanity, would there be to hinder Great Britain, if a reasonable hope were entertained of cutting a pass through the Isthmus, from employing on the work the numerous negroes which her African squadron yearly captures, and we must, we suppose, say liberates? It is impossible to return these unfortunate people to the homes from which they have been stolen, and they are now conveyed to Sierra Leone and other settlements, where they are more or less profitably employed. But how immensely valuable would their labour, under proper superintendence, prove in effecting a junction between two worlds, sundered by so contemptible but obstinate a barrier! The climate, destructive to Europeans, would be a genial one to them; and the giant task accomplished, they might be advantageously located on the soil they had rendered accessible and valuable. There seems to be no fair objection to this plan, and not to adopt it would appear marvellous in the eyes of any other nation than one, which, possessing illimitable territory, and boundless means of maritime transport, complains of a redundant home population, and resigns itself to the portentous calamity, in the face of a world which spreads its wide arms to receive as a blessing the superabundant life and energy which in her narrow confines may become a curse!

Captain Fitzroy, a very able officer, in a paper recently communicated to the Geographical Society, has, we gather of its published summary, rudely disturbed the day-dreams of dilettanti projectors, and laid bare the enormous difficulties to be encountered in all the proposed lines of route, especially with reference to the supply of efficient labour—a point so jauntily overlooked by interested and eager speculators. So powerfully has his exposition operated, that the common-sense, indispensable expedient of procuring an authoritative opinion upon the subject, is all at once acknowledged on all sides, and by none more loudly than the men who, a few weeks before, would have sworn to the infallibility of their own pet projects. The surveyor-general, with all his vehement predilections for the picturesque Chagres river, has been fain to echo the cry, with however the strange, inconsequent addition, that 'young men' who have a name to make should be employed upon the all-important errand. In the meantime, amidst all this crumbling of rashly-conceived and showy projects, let us not forget that, after all, there is but five-and-thirty miles of barrier to pierce through; and that the reward necessarily following the realisation of the long-felt desire of uniting the East with the West will repay a thousandfold the griefs, disappointments, and abortive efforts which preceded and prepared its accomplishment.

It will also be well to bear in mind, that the genuine enthusiasm manifested upon the subject of breaking through the impeding Isthmus, although no crowning reward has yet been reaped, has not been altogether barren. As already mentioned, a plank-railway for passengers from

Chagres to Panama is announced,* and the New York Company, if incapable of connecting two worlds, have at least two steamers on the San Juan, and passengers will, it is said, before long be conveyed from New York to San Francisco at the charge of fifty dollars each, including two hundred-and-a-half of luggage for each person. These may be small, but they are real successes. Comparatively very trifling improvement in the mode and power of transit would be of incalculable benefit to the states of Central America, and to those whose merchant-traffic is connected with them. Take, as an instance, the small but industrious state of Costa Rica, bounded on the south by New Granada and the San Juan river, and on the north by the lake and part of the state of Nicaragua. Its exports, consisting of coffee, cocoa, indigo, &c. amount to 1,000,000 dollars annually, chiefly find their way to England, and are repaid by British manufactures, all of which have to be conveyed round Cape Horn: albeit a decent road of seventy miles would enable the Costa Ricans to ship their produce and receive its return by the San Juan. Any arrangements, therefore, which attract attention to these practically-unopened countries, however they may fall short of the loftier object at which they were aimed, will not the less have rendered true and lasting service to the gradual but sure and glorious work of knitting together kingdoms and peoples by the strong bonds of mutual intercourse, service, and esteem.

* Mr Hopkins says this railway is upon the route proposed by himself, from Gorgona to Panama, the contract for which has been let to a Captain Totten.

DANIEL DE FOE.

AMONG the books which may be reckoned as belonging to the world's acknowledged stereotypes, there are probably few that have been read more frequently, or proved acceptable to a greater variety of tastes, than the illustrious 'Robinson Crusoe.' While, however, in connection with this performance the author's name has become so extensively familiar, it is principally by means of it that he continues to be remembered. The generality of modern readers know little of the extent and merit of De Foe's political and controversial writings, or of the conspicuous position which he occupied on account of them with his contemporaries. Having reference chiefly to the disputes and contentions of his times, these productions have naturally lost much of their original interest, and their value has been therefore considerably diminished. It is nevertheless conceived that they are worthy of a more general investigation and attention; and accordingly it is here intended to furnish some account of them, and also to present such an outline of the writer's personal history, character, sufferings, and disappointments, for conscience' sake and otherwise, as can be conveniently rendered within the limits of the present Paper.

De Foe's entire works consist of more than two hundred separate publications, embracing a vast variety of subjects, and all exhibiting evidences of great ability, honesty of intention, and a keen perception of just and wholesome principles. As a politician, he was throughout his whole career the steady advocate of liberal interests, the manly and upright champion of justice, of tolerance, and of all those citizen-rights valued by honest Englishmen. Living in a turbulent era of our history, when the pretensions of rival and selfish factions were agitated with an inveterate and unprincipled animosity, he seems to have been in great part proof against the prevalent contagion, and to have entertained the questions in dispute with a scrupulous regard to their truthfulness or reasonable expediency. By being an honest man than the generality, he became the object of general misapprehension and opprobrium. Few men had more of the world's notice in his day; none more of its calumny and persecution. In a more than ordinary degree he shared the fate of every man who, by genius or cultivation, is in advance of his own times. The party whose aims and schemings he opposed he very naturally offended; but he was also not unfrequently misrepresented and calumniated by the

very party whose interests he endeavoured to promote. This party consisted of the nonconforming Presbyterians, who, as the successors of the Puritans of the foregoing age, continued to protest against the narrowness and dominancy of the Protestantism of the Reformation. De Foe is in a certain sense the representative of the aims and spirit of modern Independence: he was in creed and political principle a dissenting Presbyterian, and he advocated most of the claims and opinions by which the dissenting sects were then, and are still in part, distinguished; but he seems, upon the whole, to have been greatly superior to his party, inasmuch as he was less sectarian, and more liberal and catholic in his sentiments.

In proceeding to narrate the principal events and transactions of his life, it may be well to mention at the outset that the particle *De*—for reasons which cannot now be ascertained—was adopted, and not inherited, by our author; his original family name being simply *Foe*, without any euphonious or ornamental prefix. Of his ancestry or immediate progenitors there is very little known. The earliest that has been mentioned is his grandfather, Daniel Foe, who was a substantial English yeoman, and farmed his own estate at Elton in Northamptonshire. He is supposed to have been attached to the Cavalier and High Church party; and as an evidence of his respectability, it has been recorded that he kept a pack of hounds for his diversion. Daniel pleasantly relates, that his grandfather's huntsman had the irreverent habit of naming his dogs after the most illustrious officers in the Puritan and Royal forces: 'he had his Roundhead and his Cavalier, his Goring and his Waller, and all the generals in both armies were hounds in his pack; till the times turning, the old gentleman was fain to scatter the pack, and make them up of more dog-like surnames.' Besides scattering his hounds, it would seem that Mr Foe had also to disperse his family, for we find that James Foe, who is presumed to have been a younger son, was 'sent at a proper age to London,' and there apprenticed to a butcher. In this calling he became afterwards established in St Giles's, Cripplegate, and after flourishing in business for many years, he ultimately retired upon a decent competency, which he enjoyed until his death. He was the father of our celebrated Daniel, who was born in the parish of St Giles's aforesaid in the year 1661.

His parents having embraced the Nonconformists' principles, the boy was accordingly brought up in their faith. Of the manner in which he spent his early years there is no existing record. The imagination is left to picture him as it can. A lively and pleasant fellow we conceive him to have been, of quick and generous impulses, not backward to contend in feats of sport or warfare, but nowise given to the exaction of unfair advantages, for he says he 'learned' from a boxing English boy not to strike an enemy when he is down.' One cannot readily bring his figure and appearance very near to us; but there assuredly, in St Giles's parish, Cripplegate, he once visibly lived and went to school with his contemporaries. Nightly for some years was he perhaps seated at the family table in the sitting-room—a little back parlour, as we fancy, behind the butcher's shop—conning lessons for the coming day, and possibly relieving his strained attention by counting the flies upon the ceiling. There were times, doubtless, when he read books for his own amusement: most likely the historical portions of the Bible, and probably the wondrous

allegory of the 'Pilgrim's Progress.' On Sundays he had to put on a grave face, and go forth with the family to the 'meeting-house in Little St Helen's, Bishopsgate Street,' to hear the Rev. Dr Annelsey, 'an esteemed Presbyterian minister,' who had been formerly ejected from the incumbency of Cripplegate. There, with subdued and steady countenance, in the grave Presbyterian congregation, Daniel undoubtedly sat and listened to the fervid eloquence of the preacher, and imbibed from it something of the manly independence and invincible love of liberty which he was destined afterwards to display in his own career. It is even conceivable that the good minister sometimes visited his father's house, and it is not unlikely that, on suitable occasions, he may have put his hand on the boy's head, and bade him remember to stand resolutely by the principles and religious doctrines in which he had been instructed.

It were interesting to know whether Daniel ever carried a butcher's tray, and what was the price of mutton, as his father retailed it to customers, two hundred years ago. To such questions as these, however, we can now obtain no answer. But judging from the prosperous circumstances of his family, and from the fact that young De Foe was early destined for the Presbyterian ministry, it seems improbable that he was ever actively connected with his father's business. At the age of fourteen, after he had been sufficiently qualified by inferior teachers, he was sent to a Nonconformist college, or academy, at Newington, then under the direction of the Rev. Charles Morton, a gentleman who had the reputation of being a 'polite and profound scholar.' Here he is reported to have had great advantages for learning, and to have lived in very agreeable society. Little, however, is known of his manner of life, or of the progress which he made while residing at this institution; but it has been concluded, from certain passages in his writings, that he had not failed to turn his opportunities to account. He has informed us that he had in his time been master of five languages, and that he had studied the mathematics, natural philosophy, logic, geography, and history. With the theory and practical capabilities of the English constitution he was thoroughly acquainted; and he sometimes boasts of having investigated politics as a science. Under the direction of his tutor, he went through the authorised courses of theology, in which he acquired such a proficiency as enabled him to cope with the acutest writers of the disputatious age in which he lived. His knowledge of ecclesiastical history was also very considerable; and indeed his attainments in all departments of general information were such as to entitle him to be considered a person of great intelligence and cultivation. A man of deep or extensive 'learning,' in the technical acceptance, he certainly never was, nor as such was he ever desirous of being regarded; but that he was anything like the 'illiterate person' which some of his opponents delighted to represent him to be, there is evidence enough in his writings to disprove. The poet Gay, adopting the cant of the Scriblerus Club, speaks of him as 'a fellow who had excellent natural parts, but wanted a small foundation of learning,' and cites him as 'a lively instance of those wits who, as an ingenious author says, will endure but one skinning;' but this is a judgment which time has since emphatically reversed; and it is not likely that it will be again referred to, either in depreciation of De Foe, or by way of illustrating the poet's penetration.

At what time De Foe quitted the Newington institution is not distinctly known; neither is it apparent what induced him to abandon the design of entering the Presbyterian ministry. Perhaps he had no sufficient sense of any call to the work. It has even been surmised that the volatility of his disposition might have proved incompatible with that dignified vocation. An early turn for authorship, and an inveterate tendency for satire, may have contributed to unfit him for entering into the ministry with an exclusive devotion to its duties, and may possibly have determined him to renounce his purpose, for the sake of addressing himself more freely to literary and political pursuits. At anyrate, at the age of twenty-one he came forth boldly as an author, embracing the popular side in politics. His first production was a spirited lampoon, levelled at the noted Roger L'Estrange, who, in a work entitled a 'Guide to the Inferior Clergy,' had recently advanced some highly illiberal notions. De Foe's pamphlet bore the title of 'Speculum Crape-Gownorum; or a Looking-Glass for the Young Academicks, new Foyl'd: with Reflections on some of the late High-flown Sermons, to which is added an Essay towards a Sermon on the Newest Fashion. By a Guide to the Inferior Clergy. London: 1682.' The title was adopted in allusion to the crape-gowns then in use among the inferior clergy, and the banter was sufficiently effective to put them out of fashion, and thereby damage the respectability of the material, against which, however, the author had no particular antipathy. The design of the work was to expose and ridicule the pretensions of the High Church faction. The most amusing portion is the sermon, which is a clever parody of the pulpit discourses of the times, and was especially intended to satirise the 'crape-gown men' for their interferences with politics, 'that they may see how ridiculous they are, when they stand fretting, and fuming, and heating themselves about state affairs in their pulpits.' Its success with the town, and the fertility of the subject, induced the author to follow it up with a second part, in which, however, he deals more seriously with the government on account of its severity to Dissenters, and by exhibiting the practical effects of persecution, cleverly exposes its absurdity. The work seems to have attracted attention enough to lead some one to reply to it, as the same year we have notice of a publication bearing the title of 'Reflections upon Two Scurrilous Libels, called Speculum Crape-Gownorum.' The author is commonly supposed to have been L'Estrange himself.

Three years after the publication of his pamphlet—namely, in the summer of 1685—De Foe engaged in practical hostility against the government of James II., by joining the standard of the Duke of Monmouth when he landed in Dorsetshire with his hundred and fifty men, for the purpose of delivering the country from the dominion of arbitrary rule, and the anticipated sway of popery, and thereby gaining for himself the crown of England—'a romantic kind of invasion,' says Welwood, 'which is scarcely paralleled in history.' On the suppression of this rebellion, our adventurous volunteer narrowly escaped being taken prisoner. Eluding pursuit, however, he managed to save his head; and being personally unknown in that part of the kingdom which was the seat of the insurrection, he does not appear to have been afterwards suspected, and therefore was never brought to trial for his treason. Returning subsequently to London, he next proceeded to settle himself peaceably in business, resolved, if possible,

to refrain from interfering further in public or polemical affairs. In Freeman's Court, near the thoroughfare of Cornhill, he accordingly became established as a hose-factor, designing to live by a reasonable commission on the sale of stockings. In 1688, being a freeman by birth, he was admitted into the livery of London. For ten years he devoted himself more or less to business; but the times were too unfavourable to permit him to succeed. The discontents and agitations of the country, occasioned by the arbitrary proceedings of the king, who was aiming at absolute power over the lives and consciences of his subjects, and fomented by the disputes and controversies of the several factions into which the nation was divided, were of too exciting and interesting a character for a man of De Foe's active and earnest temperament to refrain from taking part in them. Mixing continually in company, in coffee-houses and in taverns, he seems to have spent more of his time in discussing the movements and pretensions of the parties, and the bearings of political disputes, than in attending to his personal interests at the counter. With him, it would appear, there was no alternative: when the wellbeing of the nation, and the most important liberties of the people were endangered, all private convenience and advantage ceased, in comparison, to have any sensible hold on his regards. He therefore stood forth boldly in defence of the popular rights, speaking and writing whatsoever might seem to him calculated to consolidate and support them.

One of the prominent dogmas of the day, and one which served the cause of despotism more effectually than any other, was the absurd pretension of the unlimited and unconditional *divine right* of kings. 'It was for many years,' says De Foe, 'and I am witness to it, that the pulpit sounded nothing but the duty of absolute submission, obedience without reserve, subjection to princes as God's viceregents, accountable to none, to be withstood in nothing, and by no person. I have heard it publicly preached, that if the king commanded my head, and sent his messengers to fetch it, I was bound to submit, and stand still while it was cut off.' That the reader may be assured that this is really no caricature of the opinions which then prevailed, let him take the following delectable passage from a published sermon of the bishop of Chester in those days, who undoubtedly spoke only what were the common sentiments of the clergy:—'Though the king,' saith he, 'should not please or humour us—though he rend off the mantle from our bodies, as Saul did from Samuel—nay, though he should sentence us to death, of which, blessed be God and the king, there is no danger; yet, if we were living members of the Church of England, we must neither open our mouths nor lift up our hands against him, but honour him before the elders and people of Israel: nor must we ask our prince why he governs us otherwise than we please to be governed ourselves; we must neither call him to account for his religion, nor question his policy in civil matters, for he is made our king by God's law, of which the law of the land is only declarative!''*

To this sort of doctrine De Foe altogether objected to subscribe, and scrupled not to denounce it as an abominable heresy. Such a presumptuous exaltation of the divine right of kings he considered to be entirely

subversive of the divine rights of men; and rather than acknowledge it, or sanction its acknowledgment, he was constrained to try the case by logical disputation, and was even nowise disinclined to try it by argument of battle. To this disposition, indeed, the whole country came at last. James II., in attempting to carry the current dogmas into practice, aroused a universal opposition to his schemes and government; and Church of England people and Dissenters finally combined to expel him from the kingdom. The 4th of November, the day on which the Prince of Orange landed, De Foe is reported to have commemorated ever afterwards as a sort of sacred holiday. 'It is a day,' said he, 'famous on various accounts, and every one of them dear to Britons who love their country, value the Protestant interest, or who have an aversion to tyranny and oppression.' In the following year, when King William and Queen Mary visited the City, our exulting Dissenter rode on horseback in the procession as a member of a royal regiment of volunteers.

The Revolution being settled, De Foe appears for some time to have abstained from politics, and to have directed his attention principally to affairs of trade. For some years past he had been engaged in 'commercial speculations with Spain and Portugal;' but being repeatedly unsuccessful, he finally failed in business. The occupations of trade seldom assort well with literary genius, and it is thought that De Foe's lively and discursive talents were the principal hindrance to his success. 'With the usual imprudence of superior genius,' says Mr Chalmers, 'he was carried by his vivacity into companies who were gratified by his wit. He spent those hours with a small society for the cultivation of polite learning which he ought to have employed in the calculations of the counting-house; and being obliged to abscond from his creditors in 1692, he naturally attributed those misfortunes to the war which were probably owing to his own misconduct.' Be this as it may, it is very evident that his failure was no impeachment to his honesty. An angry creditor, indeed, took out a commission of bankruptcy against him; but this was shortly afterwards superseded, on the petition of those to whom he was most indebted, and who accepted a composition on his single bond. This was punctually paid, as he became capable of paying it, by efforts of unwearied diligence. Some of his creditors who had been thus satisfied, falling afterwards into difficulties themselves, De Foe voluntarily paid up their entire claim—'an example of honesty,' says Mr Chalmers, 'which it would be unjust to De Foe and to the world to conceal.' The amount for which he failed cannot now be ascertained, but it must have been considerable, and shows that he was no peddling or petty trader, such as his political enemies delighted in representing him. Being reproached by Lord Haversham as a mercenary, De Foe tells him, in 1705, that 'with a numerous family, and no help but his own industry, he had forced his way, with undiscouraged diligence, through a sea of misfortunes, and reduced his debts, exclusive of composition, from seventeen thousand to less than five thousand pounds.'*

As the estimate to be taken of De Foe's moral character must be in great part determined by his conduct under these pecuniary diffi-

* Reply to Lord Haversham's Vindication.

culties, it is essential that whatever evidence there may be now existing illustrative of his integrity should be fairly stated. In the first place, it would appear that his personal probity was unsuspected; for 'so high a sense of his honour was entertained by his creditors, that they agreed to take his own personal security for the amount of composition upon his debts.' The confidence reposed in him seems likewise to have been justified, inasmuch as he returned ultimately to all or the greater number of his creditors the full amount of their original claim. 'This,' says Mr Wilson, 'was a fine illustration of the effect of moral principle, and an exemplification of the advice he gave to others.' Which advice is: 'Never think yourselves discharged in conscience, though you may be discharged in law.' The obligation of an honest mind can never die. No title of honour, no recorded merit, no mark of distinction, can exceed that lasting appellation—an *honest man*. He that lies buried under such an epitaph has more said of him than volumes of history can contain. The payment of debts, after fair discharges, is the clearest title to such a character that I know; and how any man can begin again, and hope for a blessing from Heaven, or favour from man, without such a resolution, I know not.* We thus see that De Foe's notions of obligation were nowise lax or latitudinarian. As an illustration of his practice, let us take the following recorded testimony to his honesty, by one who was no friend of his, from a pamphlet entitled, 'A Dialogue between a Dissenter and the Observer,' published in 1702. 'I must do one piece of justice to the man,' observes the writer, 'though I love him no better than you do. It is this, that meeting a gentleman in a coffee-house, when I and everybody else were railing at him, the gentleman took us up with this short speech—"Gentlemen," said he, "I know this De Foe as well as any of you, for I was one of his creditors, compounded with him, and discharged him fully. Several years afterwards he sent for me, and though he was clearly discharged, he paid me all the remainder of his debt voluntarily, and of his own accord; and he told me, that as far as God should enable him, he intended to do so with everybody. When he had done, he desired me to set my hand to a paper to acknowledge it, which I readily did, and found a great many names to the paper before me; and I think myself bound to own it, though I am no friend to the book he wrote any more than you." 'The work alluded to was the 'Shortest Way with the Dissenters,' of which we shall have occasion to speak hereafter.

De Foe is thus as far as possible exonerated from blame, and in this unhappy failure must be regarded rather as an unfortunate than as a fraudulent or unprincipled speculator—as many of the contemporaneous scribblers, without knowing him sufficiently, were accustomed to consider him. The passage just quoted affords as satisfactory a proof of his upright and honourable efforts and intentions as can be reasonably desired. To avoid the operation of the harsh and crushing laws, however, that were then in force against insolvents, he appears to have absconded, and lived in hiding for some time under a blighted reputation. To what part of the kingdom he retired is not clearly known; but as it was ascertained that he once resided for a while at Bristol, it has been supposed that he

* Review, iii. 147-48.

did so at the time when he was under apprehensions from his creditors. There is even a tradition which seems to countenance the supposition. A gentleman of that city informed Mr Wilson that one of his ancestors had a distinct recollection of De Foe, and often spoke of having seen him walking in the streets of Bristol, accoutred in the fashion of the times, with a fine flowing wig, lace ruffles, and a sword by his side: also that he there obtained the name of 'The Sunday Gentleman,' because, through fear of bailiffs, he did not dare to appear in public upon any other day. The fact of De Foe's residence in Bristol, either at this or some later period of his life, is further corroborated by another circumstance, mentioned to Mr Wilson by the friend alluded to. By this it appears that there was formerly a tavern in Castle Street, known by the sign of the Red Lion, and kept by one Mark Watkins, 'an intelligent man, who had been in better circumstances,' and whose house was in considerable repute among the Bristol tradesmen, who were then in the habit of resorting to it after dinner for the purpose of smoking their pipes, and hearing the news and small talk of the day. Here De Foe, following the custom of the times, is reported to have spent an occasional afternoon among the company, and was well known to the landlord under the same name of 'The Sunday Gentleman.' Mark Watkins, who appears to have been a humourist, is said to have entertained his guests in after-times with a very whimsical account of a strange man, who went about Bristol clothed in goat-skins, and who he affirmed was none other than the celebrated Robinson Crusoe.* The house, we believe, is still standing, but has been latterly reduced to a mere pot-house, so that none need go there to make inquiries about De Foe.

Having at length come to a satisfactory arrangement with his creditors, De Foe was enabled to emerge from his retirement. For two years he had been living in unpleasant and involuntary leisure: not indeed altogether idly; for notwithstanding the pressure of his affairs, he contrived to write a book. This was his 'Essay upon Projects,' which, however, he did not find it convenient to publish till nearly five years afterwards. Of his proceedings subsequent to his liberation he himself gives us the following account:— 'Misfortunes in business having unhinged me from matters of trade, it was about 1694 when I was invited by some merchants, with whom I had corresponded abroad, and some also at home, to settle at Cadiz in Spain; and that with the offers of very good commissions. But Providence, which had other work for me to do, placed a secret aversion in my mind to quitting England upon any account, and made me refuse the offers of that kind, to be concerned with some eminent persons at home, in proposing ways and means to the government for raising money to supply the occasions of the war then newly begun.† The war in question was an expensive one with France, entered on in support of the title of King William, and for the purpose of arresting the conquests of Louis XIV.; and it was part of De Foe's business to devise and suggest taxes, to enable the government to carry on the enterprise. 'Some time after this,' says he in continuation of the statement just quoted, 'I was, without the least application

* De Foe's Life and Times, by Walter Wilson.

† Appeal to Honour and Justice, pp. 5-6.

of mine, and being then seventy miles from London, sent for to be the accountant to the Commissioners of the Glass-Duty, in which service I continued to the determination of their commission.' This appointment he received in 1695, and held it till the suppression of the tax in August 1699.

About this time, or somewhat earlier, De Foe became a partner in certain tile-and-brick-kiln works at Tilbury in Essex, and continued to be the acting secretary of the concern for several years. Here he had a country-house, overlooking the river Thames, and seems to have lived for some time in thriving circumstances. With his share of the proceeds of the business, and his settled salary as accountant to the Glass Commissioners, he is once more in a condition to pay his way, and by dint of thrift do something to reduce his former debts. As a scheme, perhaps, for raising additional ways and means, he now, in 1796, ventured on the publication of the before-mentioned 'Essay upon Projects.' Herein he descants largely and sensibly on 'politics, commerce, and benevolence.' He expatiates on banks, highways, and bankruptcy; and amongst other things advocates a plan for the promotion of friendly societies, 'formed by mutual assurance, for the relief of the members in seasons of distress.' By way of experiment, he proposes to establish one for the support of destitute widows, and another for the assistance of seamen. 'The same thought,' says he, 'might be improved into methods that should prevent the general misery and poverty of mankind, and at once secure us against beggars, parish-poor, alms-houses, and hospitals; by which not a creature so miserable or so poor but should claim subsistence as their due, and not ask it of charity.' We have here the seminal idea of all the friendly clubs, savings' banks, and mutual associations, that have since been established in the country. Another of his projects was the formation of institutions for cultivating certain neglected branches of education. He conceived that there might be some academy or society for correcting, purifying, and establishing the English language, such as had been founded in France under Cardinal Richelieu. 'The work of this society,' says he, 'should be to encourage polite learning, to polish and refine the English tongue, and advance the so-much-neglected faculty of correct language; also to establish purity and propriety of style, and to purge it from all the irregular additions that ignorance and affectation have introduced; and all those innovations of speech, if I may call them such, which some dogmatic writers have the confidence to foster upon their native language, as if their authority were sufficient to make their own fancy legitimate.' A similar notion had been started in the time of Charles II. by Lord Roscommon and the poet Dryden; and when De Foe had thus revived it, it was again renewed by Prior, and subsequently by Swift; though in spite of promises from various influential persons, no attempt was ever made to carry it into practical effect, and it remains to this day as a matter worthy of consideration.

Schemes for military schools, and for lunatic asylums of an educational description, were also ingeniously propounded, and their practicability and advantages very ably stated in this treatise. But perhaps the most interesting of all the author's projects is that of an institution for the better education of young women. As De Foe's remarks on such a subject will tend to illustrate the comparative progress which has been made in female culture since the time at which he wrote, let us here insert some sentences

on the dignity of woman. 'We reproach the sex every day,' says he, 'with folly and impertinence, while I am confident had they the advantages of education equal to us, they would be guilty of less than ourselves.' He complains that the women of his time were taught merely the mechanical parts of knowledge—such as reading, writing, and sewing—instead of being exalted into rational companions; and he argues that men in the same class of society would cut a sorry figure if their education were to be equally neglected. 'The soul,' he observes, 'was placed in the body like a rough diamond, and must be polished, or the lustre of it will never appear. And it is manifest, that as the rational soul distinguishes us from brutes, so education carries on the distinction, and makes some less brutish than others. Why, then, should women be denied the benefit of instruction? If knowledge and understanding had been useless additions to the sex, God would never have given them capacities, for he made nothing needless. What has woman done to forfeit the privilege of being taught? Does she plague us with her pride and impertinence? Why do we not let her learn, that she may have more wit? Shall we upbraid woman with folly, when it is only the error of this inhuman custom that hinders her being made wiser? . . . Women, in my observation of them, have little or no difference, but as they are or are not distinguished by education. Tempers, indeed, may in some degree influence them, but the main distinguishing part is their breeding. If a woman be well-bred, and taught the proper management of her natural wit, she proves generally very sensible and retentive: and, without partiality, a woman of sense and manners is the finest and most delicate part of God's creation, the glory of her Maker, and the great instance of his singular regard to man, to whom he gave the best gift either God could bestow or man receive: and it is the sordidest piece of folly and ingratitude in the world to withhold from the sex the due lustre which the advantages of education give to the natural beauty of their minds. A woman, well-bred and well taught, furnished with the additional accomplishments of knowledge and behaviour, is a creature without comparison. Her society is the emblem of sublimer enjoyments; she is all softness and sweetness, love, wit, and delight; she is every way suitable to the sublimest wish; and the man that has such a one to his portion has nothing to do but to rejoice in her and be thankful.' Persons imperfectly acquainted with De Foe will have probably been unprepared to give him credit for so much elegance and delicacy of sentiment as are here displayed, and which certainly were nowise very common among the wits and gentlemen of his age.

With regard to the substance and execution of this work, Mr Walter Wilson has accurately remarked, that 'it abounds in strong sense, couched in nervous language, and contains some specimens of good writing. His sentiments upon the various topics discussed are delivered with diffidence, but at the same time with becoming freedom; and they discover a versatility of genius, accompanied by correct thinking, that are not often united in the same individual.*' It is a book, indeed, which is now but little known, and rarely read, but it is nevertheless in several respects worthy of perusal. Of its sterling and substantial merit there needs no better testimony

* De Foe's Life and Times.

than that of Dr Franklin, who found it in his father's library, and, alluding to it, says, he received impressions from it which influenced some of the principal events of his after-life.

After the publication of this performance De Foe several times exercised his pen in writing pamphlets on various political topics, but produced nothing of any moment till in 1698 he came forward with a tract designed to further the reformation of manners in the nation. The exceeding dissoluteness of the times had offended the moral sense of the constitutional monarch, who had been used to stricter ways, and accordingly, in his speech of the present year, he signified a desire for improvement. 'I esteem it,' said he, 'one of the greatest advantages of the peace (which had lately been concluded), that I shall now have leisure to rectify such corruptions and abuses as have crept into any part of the administration during the war, and effectually to discourage profaneness and immorality.' The House of Commons, in their address to the king shortly afterwards, commended his design, declaring their readiness to support him; and 'in concurrence with his majesty's pious intentions, they most humbly desired that his majesty would issue out his royal proclamation, commanding all judges, justices of the peace, and other magistrates, to put in speedy execution the good laws that were now in force against profaneness and immorality, giving encouragement to all such as did their duty therein.' The king, in reply, said that 'he could not but be very well pleased with an address of this nature, and he would give immediate directions to the several particulars they desired.' Accordingly, a proclamation was issued for preventing and punishing the crimes and vices specified; and the parliament passed a bill to the same effect. In the like spirit the archbishop of Canterbury drew up some 'excellent rules for the government of the clergy,' which he communicated in a circular letter to the bishops of his province. These several proceedings De Foe looked upon with interest, but only with a partial satisfaction, inasmuch as he perceived that the pains and penalties instituted to effect the intended reformation were all likely to have a one-sided and exclusive operation, and would fall mainly, if not entirely, on those classes of society who were called the 'common people.' To serve the cause of these, he therefore published 'The Poor Man's Plea, in relation to all the Proclamations, Declarations, Acts of Parliament, &c. which have been or shall be made, or Published, for a Reformation of Manners, and Suppressing Immorality in the Nation;' and in this production he presented the public with a view of the subject not theretofore considered, and facetiously suggested a variety of reforms which, in his opinion, were required to insure the success of the rigorous measures contemplated.

'In searching for the proper cure of an epidemic disease,' says he, 'physicians tell us it is first necessary to know the cause. Immorality is without doubt the present reigning distemper of the nation; and the king and parliament, who are indeed the proper physicians, seem nobly inclined to undertake the cure. But as a person under the violence of a disease sends in vain for a physician, unless he resolves to make use of his prescription, so in vain does the king attempt to reform a nation, unless they are willing to reform themselves.' After noticing with due commendation the efforts of the public authorities, he says—'These are great things, and, if

well improved, would give an undoubted overthrow to the tyranny of vice. Be we of the *Plebei* find ourselves justly aggrieved in all this work of reformation, and the partiality of the reforming rigour makes the real work impossible. Our laws against all manner of vicious practices are very severe; but these are all cobweb laws, in which the small flies are caught, and the great ones break through. My Lord Mayor has whipped about the poor beggars, and a few scandalous females have been sent to the House of Correction; some alehouse keepers and vintners have been fined for drawing drink on the Sabbath-day; but all this falls upon us of the mob, as if all the vice lay among us. We appeal to yourselves, whether laws or proclamations are capable of having any effect while the very benches of our justices are infected? 'Tis hard, gentlemen, to be punished for a crime by a man as guilty as ourselves: this is really punishing men for being poor, which is no crime at all; as a thief may be said to be hanged not for the theft, but for being taken.' De Foe is not backward to acknowledge that in the upper classes are to be found many persons of honour and good morals, but their partiality in the execution of the laws rendered them almost as criminal as the vicious. 'The quality of the person,' he observes, 'has been a license to the open exercise of the worst crimes; as if there were any baronets, knights, or esquires in the next world, who, because of those little steps custom had raised them on higher than their neighbours, they should be exempted from the divine judicature; or, as Captain Vratz, who was hanged for murdering Esquire Thynne, said, "God would show them some respect, as they were gentlemen."'

Upon the importance of example in the higher orders, he remarks—'If my own watch goes false, it deceives me and no one else; but if the town clock goes false, it deceives the whole parish. The gentry are the leaders of the mob: if they are lewd and drunken, the others strive to imitate them; if they discourage vice and intemperance, the others will not be so forward in it, nor so fond of it.' Of another class of persons who, by the theory of their position, should be patterns of all goodness, he observes—'The *clergy* also ought not to count themselves exempted in this matter, whose lives have been, and in some places still are, so vicious and so loose that it is well for England we are not subject to be much priest-ridden. The parson preaches a thundering sermon against drunkenness, and the justice of peace sets my poor neighbour in the stocks, and I am like to be much the better for either, when I know, perhaps, that this same parson and this same justice were both drunk together but the night before. A vicious parson that preaches well, but lives ill, may be likened to an unskilful horseman who opens a gate on the wrong side, and lets other folks through, but shuts himself out. The application of this rough doctrine,' he concludes, 'is, in short, both to the gentry and clergy—*Physicians, heal yourselves!*'

For his own labours in the cause of reformation, De Foe informs us that he was signally ill treated, and calumniated 'as a reproacher of magistrates, a reviler of the rulers of the people, and a meddler with what was not his own business.' The work, however, was not without its influence on the public: we are told that 'an honest, learned, and judicious clergyman, was even pleased to commend it from the pulpit'—though, as De Foe relates, he

was censured for the sermon, and 'is hated to this day (eight years afterwards) by all the leading men of the parish of St J——, not far from the city of London.' The offence which the book occasioned no doubt arose out of its truthfulness, and its close and cutting application to the actual conditions of the times. The writer was obviously correct in his position, that unless wickedness in high places could be reduced, it would be both folly and unfairness to attempt its suppression in the low.

Some time towards the close of the century, De Foe appears to have taken up his residence at Hackney, for the sake, probably, of being nearer to the metropolis, the grand scene of political movements and adventures. Here we find him with a settled household, a married man with children around him, one of which was born here in 1701, as is evidenced by an entry of baptism in the parish register. How long he had been married, or what fair lady he had linked his fate with, are points of his biography which have never come to light. Being, however, on the verge of forty, it is probable that he was by this time a paternal personage of some standing, since in his writings there are repeated allusions to his large family. For instance, in 1706 he speaks of seven children; and subsequently, in 1712, he refers to six, one having died in infancy during the interval, in 1707. For the rest we can obtain no authentic information about his circumstances, though, from what subsequently transpired, and will be related in its course, we have reason to presume that he continued to maintain a prosperous and respectable position. Meanwhile, with every occasion involving the interests or honour of the country, he is certain to be ready with a pamphlet. On all questions he can find a shrewd word to say—standing armies, changes of ministry, international diplomacy, the qualifications necessary for a member of parliament—on all these, and on whatever else may for the time be uppermost as a topic for discussion, he will boldly and emphatically, like a genuine Englishman, speak his mind. Nor can it be denied that what he says is often extremely pertinent to the subject. Take, for instance, one brief sentence of advice from his 'Six Distinguishing Characters of a Parliament Man,' published on the occasion of a general election in 1701. It is his opinion that the persons chosen should be thoroughly satisfied with the order of things established at the Revolution; therefore neither Papists nor Jacobites, nor other declared or supposed friends of James II., can be reasonably considered eligible. To such he has nothing to say provided they keep the peace, and do not push themselves into public notice: 'but,' says he, 'to single out such men to serve the nation in a Protestant parliament, and to advise King William in matters of the highest importance, is a thing so preposterous, that I know not what to say to it: 'tis like going to the devil with a case of conscience.' It seems to us, that at the time when this was written, it was a most necessary and important caution, and precisely the one which a wise and prudent man would give in order to guard against the dangers that were then most threatening to the state. There is a penetrating and statesmanlike discernment in it; much beyond the capacity of ordinary politicians, who are famous for never seeing a difficulty till they find themselves no longer able to contend with it.

Now, however, about this same year of 1701, the serpents of faction are

beginning to raise their heads and hiss, malignantly designating our respectable Dutch monarch by the opprobrious epithet of 'foreigner.' This term had then a very offensive meaning, and there was even danger that simple-minded people might be signally misled by it. De Foe therefore puts saddle and bridle upon a sort of Pony-Pegasus, and valiantly rides forth with a poetical satire called the 'True-born Englishman.' It opens with the memorable lines, which have since become a proverb—

'Wherever God erects a house of prayer,
The devil always builds a chapel there;
And 'twill be found upon examination
The latter has the largest congregation.'

The object of the satire is to reproach the author's discontented countrymen with ingratitude for abusing King William as a foreigner, and to humble their pride for despising some of the newly-created nobility on the same account. He accordingly traces the elevation of our ancient families to the favour of the Norman Conqueror, who partitioned out the country among his followers, and by his usurped prerogative made them lords and denizens. He conceives that the descendants of a nobility so created have not much to boast of; and he thus strongly exposes their inordinate pride of ancestry:—

'These are the heroes who despise the Dutch,
And rail at new-come foreigners so much;
Forgetting that themselves are all derived
From the most scoundrel race that ever lived—
A horrid crowd of rambling thieves and drones,
Who ransacked kingdoms and dispeopled towns.
The Pict and painted Briton, treacherous Scot,
By hunger, theft, and rapine, hither brought;
Norwegian pirates, buccaneering Danes,
Whose red-haired offspring everywhere remains;
Who, joined with Norman-French, compound the breed,
From whence your True-born Englishmen proceed;
And lest by length of time it be pretended
The climate may the modern race have mended,
Wise Providence, to keep us where we are,
Mixes us daily with exceeding care.'

Descending to the age of Elizabeth, the satirist notices the further mixture of the breed by the influx of foreigners, who fled hither on account of persecution; as also happened from another reason in the time of her successor—

'The first seven years of whose pacific reign
Made him and half his nation Englishmen.'

To rebuke the vanity of ancestry, he adds—

'Tis well that virtue gives nobility,
Else God knows where we had our gentry;
Since scarce one family is left alive
Which does not from some foreigner derive.
Of sixty thousand English gentlemen
Whose names and arms in registers remain,
We challenge all our heralds to declare
Ten families which English-Saxon are.'

Wherefore, he goes on to say—

‘A True-born Englishman’s a contradiction—
In speech an irony, in fact a fiction;
A metaphor invented to express
A man *akin* to all the universe.’

From thus exploring the origin of the race, De Foe proceeds next to discuss its character—

‘Fierce as the Briton, as the Roman brave,
And less inclined, to conquer than to save;
Eager to fight, and lavish of their blood,
And equally of fear and forecast void.
The Pict has made ’em sour, the Dane morose,
False from the Scot, and from the Norman worse.
What honesty they have the Saxons gave them,
And that, now they grow old, begins to leave them.
The climate makes them terrible and bold;
And English beef their courage does uphold;
No danger can their daring spirit pall,
Always provided with their bellies full.’

The remainder of the work is chiefly occupied in laudations of King William, and in exposing the ingratitude of the nation towards its deliverer. After reviewing his principal exploits, and the services and virtues of some of his associates in the Revolution, the author concludes his poem by asserting the pre-eminence and supreme nobility of *character*—

‘Could but our ancestors retrieve their fate,
And see their offspring thus degenerate;
How we contend for birth and names unknown,
And build on their past actions, not our own;
They’d cancel records, and their tombs deface,
And then disown the vile degenerate race;
For fame of families is all a cheat,
’TIS PERSONAL VIRTUE ONLY MAKES US GREAT!’

It should be mentioned that the immediate occasion of this performance was the previous publication of a sorry pamphlet, in ill-natured verse, and called ‘The Foreigners,’ by a writer whom De Foe alludes to as ‘one Mr Tutchin.’ It seems to have been quite a scurrilous affair: and it was to correct the impression which it was making on the public that the ‘True-born Englishman’ was produced. De Foe’s work had a wonderful success, having passed in a short period through not less than *nine* authorised editions, and appears to have been *pirated* to an almost unlimited extent. Of the cheap editions published without the author’s concurrence or assent, it is said that not less than 80,000 copies were disposed of in the public streets of London.* He tells us, that had he been permitted to enjoy the profits of his own labour, this production would have yielded him above a thousand pounds.†

It is difficult to judge of the merit of a satire when the occasion which produced it has passed away; but if, as seems reasonable, we are to esti-

* Life and Times, by Walter Wilson.

† Preface to the Collection of his Writings, vol. ii.

mate its value by its effects, we shall be justified in considering the 'True-born Englishman' as an excellent performance. Its poetical attractions, to be sure, are nowise extraordinary—there being in the entire work scarcely an inkling of what we are now accustomed to esteem poetry. Yet the versification is often good, and the whole piece is replete with sense, vigour, and ingenuity. It discouraged that vain reliance upon the merits of rank and ancestry which it was intended to expose; it reproved, and so far moderated the national vanity, as to silence the absurd pretensions to superiority over other nations which were then so commonly indulged in; and it contributed to the promotion of a more general respect for natural talent and personal integrity in the kingdom. Of its reformatory efficacy the author appears to have been individually satisfied. Many years after its publication he said in allusion to it: 'None of our countrymen have been known to boast of being *True-born Englishmen*, or so much as to use the word as a title or appellation, ever since a late satire upon that national folly was published, though almost thirty years ago. Nothing was more frequent in our mouths *before* that—nothing so universally blushed for and laughed at *since*. The time I believe is yet to come for any author to print it, or any man of sense to speak of it in earnest, whereas, before, you had it in the best writers, and in the most florid speeches, before the most august assemblies, upon the most solemn occasions.'*

Notwithstanding the injuries which he sustained by the piratical practices of the times, the publication of the 'True-born Englishman' had a favourable effect upon the author's fortunes, inasmuch as it gained for him a personal introduction to King William. Having read and admired the poem, his majesty desired to become acquainted with De Foe, and accordingly sent for him to the palace, and subsequently employed him in various state transactions, the nature of which, however, has been scrupulously kept secret. It is nevertheless apparent that he was held in great estimation by the king, and received from him many substantial marks of his approbation. This is indeed the most prosperous period in his private history. By royal favour and the character of events, by success and popularity in authorship, he has now attained to considerable elevation in worldly respectability, and is even understood to keep his carriage.

The best of times, nevertheless, as the proverb goes, are liable to change. On the 8th of March 1702, King William, after a reign of thirteen years, is lying dead at Kensington; and De Foe speedily discovers that he has no longer any friend at court. The new reign appears propitious for reaction. The Whigs, whose influence in the national councils had been declining during the latter days of William, now find themselves entirely displaced by their old enemies the Tories. Moreover, High-Church sectarianism is lifting up the darkness of its countenance, and intolerance and persecution are at work, striving to coerce private consciences. A grand controversy arises about 'occasional conformity;' argumentations begin, all more or less affecting the interests and comfort of Dissenters. Now also arose that eminent distinction between *High Church* and *Low*, which was destined to play so large a part in the history of those days, and to survive even down

* Use and Abuse of the Marriage-Bed, pp. 400-1.

to the present writing. According to Burnet, all that were opposed to rational liberty, held up the standard of persecution for the faith, and were inclined to practise extreme and violent measures against Dissenters, were called *High Churchmen*—and some of them gloried in the name—while all that treated the Dissenters with temper and moderation, diligently laboured in their cures, and approved of the principles of the Revolution, were considered to be ill affected to the interests of the church, and were therefore denominated *Low Churchmen*. The High-Church faction being now in the ascendancy, all toleration was repudiated, and the most strenuous exertions made to subject the Nonconformists to tyrannous and degrading disabilities. Parson Sacheverell, probably the greatest blackguard of his day, sounded the 'pulpit drum' at Oxford, declaring that every man who desired the true welfare of the church 'ought to hang out the bloody flag and banner of defiance' against Dissenters. Great was the war of pamphlets thereupon—newspapers having not as yet become sufficiently established to be the organs of party contests.

In such a threatening state of things, De Foe could not fail to advance into the fray, to the help of the oppressed against the mighty. Tract after tract, loaded with argument and sharp derision, was accordingly fired off in rapid and continuous succession—wounding and convincing some, and irritating and offending many more. Argument, however, was upon the whole sadly ineffective, and fell for the most part as harmlessly as cannon-balls on feather-beds. Defoe therefore thinks it well to change his tactics, and instead of argument to try the force of satire. Being well acquainted with the writings of his opponents, and seeing the absurd lengths to which their intemperate dispositions urged them, it occurred to him that by personating the character of a High Churchman, and judiciously employing his gift of irony, he might perhaps be able to expose the wickedness and folly of the ascendant faction in such a way as would in some sort frustrate their intolerant designs. With this view he produced and published '*The Shortest Way with the Dissenters; or Proposals for the Establishment of the Church*. London, 1702'—a work which apparently recommended the infliction of the harshest pains and penalties on those unquiet people, and which, being published without the author's name, was at first misapprehended, as well by the party whom it was designed to serve as by that against whose malignity and perverseness it was intentionally directed. At the two universities it was accepted as the work of a violent High Churchman, and under that impression was considerably applauded; while the Dissenters, on the other hand, gave proof of their incapacity for understanding banter, by being seriously alarmed lest the inflictions derisively proposed should be actually put in exercise.

The work begins with some bitter reflections on the principles and conduct of Dissenters, showing how inimical they are to the peace and well-being of the nation. Then, after a review of their fanatical irregularities from the period of their original secession, and some remarks on the injudicious lenity which had been exercised towards them by all preceding governments, the author proceeds to propose and justify a resolute course of persecution. He declares that 'we can never enjoy a settled, uninterrupted union and tranquillity in this nation till the spirit of Whiggism, faction, and schism is melted down, like the old money.' Accordingly, the Dissenters

must be all exterminated. Nothing short of their absolute destruction will suffice to render us 'a national and unmixed church.' 'I do not prescribe fire and fagot,' says he; 'but as Scipio said of Carthage, *Delenda est Carthago*—they are to be rooted out of this nation, if ever we will live in peace, serve God, or enjoy our own.' How so desirable a consummation is to be effected he declines to say, leaving it 'to those who have a right to execute God's justice on the nation's and the church's enemies.' For the rest, he continues—'Tis vain to trifle in this matter. The light, foolish handling of them by fines is their glory and advantage. If the gallows instead of the comptor, and the galleys instead of the fines, were the reward of going to a conventicle, there would not be so many sufferers. The spirit of martyrdom is over. They that will go to church to be chosen sheriffs and mayors would go to forty churches rather than be hanged. If one severe law was made, and punctually executed, that whoever was found at a conventicle should be banished the nation, and the preacher hanged, we should soon see an end of the tale—they would all come to church, and one age would make us all one again. To talk of five shillings a month for not coming to the sacrament, and of one shilling a week for not coming to church, is such a way of converting people as never was known! This is selling them a liberty to transgress for so much money. If it be not a crime, why don't we give them full license? And if it be, no price ought to compound for the committing it, for that is selling a liberty to people to sin against God and the government. We hang men for trifles, and banish them for things not worth naming; but an offence against God and the church—against the welfare of the world and the dignity of religion—shall be bought off for five shillings! This is such a shame to a Christian government, that 'tis with regret I transmit it to posterity.'

One wonders how any human heads could have been so obtuse as not to perceive the irony of passages such as this. Perceived, however, it was not, but was, as we have said, entirely mistaken both by Churchmen and Dissenters. In one of his later works our author says—'The wisest Churchmen in the nation were deceived by this book. Those whose temper fell in with the times hugged and embraced it—applauded the proposal—filled their mouths with the arguments made use of therein; and an eminent Churchman in the country wrote a letter to his friend in London, who had sent him the book, in the following words:—"SIR—I received yours, and with it that pamphlet which makes so much noise, called 'The Shortest Way with the Dissenters,' for which I thank you. I join with that author in all he says, and have such a value for the book that, next to the Holy Bible and the sacred comments, I take it for the most valuable piece I have. I pray God put it into her majesty's heart to put what is there proposed in execution. Yours, &c.'" In 1705 De Foe stated in his 'Review' that he had the original of this letter then in his possession. A similar story is related by Oldmixon, which it is unnecessary to repeat.

As soon as it was discovered that De Foe was the author of the 'Shortest Way,' the Church and Tory party were at no loss to comprehend his object; and that which had been lately lauded as a production inferior only to the 'Holy Bible and the sacred comments,' was now denounced as infamous, and its author deemed deserving of a public prosecution. As the tempest of rage began to rise, De Foe thought it prudent to conceal himself, though it was

soon apparent that any lengthened concealment would be impossible: witness the 'Gazette' of London for the 10th of January 1703, offering a reward for his apprehension, on the grounds that he is 'charged with writing a scandalous and seditious pamphlet.' We are much indebted to this document for preserving to us an intelligible description of his outward man. 'He is,' says the Gazette, 'a middle-sized, spare man, about forty years old; of a brown complexion, and dark-brown coloured hair, but wears a wig; a hooked nose, a sharp chin, gray eyes, and a large mole near his mouth; was born in London, and for many years was a hose-factor in Freeman's Yard in Cornhill, and is now owner of the brick and pantile works near Tilbury Fort in Essex. Whoever shall discover the said Daniel De Foe to one of her majesty's justices of the peace, so he may be apprehended, shall have a reward of £50, which her majesty has ordered immediately to be paid upon such discovery.' On the 25th of February, as an instance of further animosity against De Foe, a formal complaint was made of his publication in the House of Commons, when some of the obnoxious passages being read, it was resolved—'That this book, being full of false and scandalous reflections on this parliament, and tending to promote sedition, be burnt by the hands of the common hangman to-morrow in New Palace-Yard.'

Accordingly, on the morrow, in New Palace-Yard there is a remarkable display of fire-works. The Calcraft of the day, with drunken, bewildered countenance, in second-hand, uncertain small clothes, indefinite jerkin, and other nondescript apparel, has been summoned to execute the 'last severity of the law' upon a book. Suitable official persons, indignant zealots, and the universal 'tag-rag and bob-tail' of the neighbourhood are also assembled to see it done; and there, amid execrations and huzzas, the free-spoken thought of a bold man, so far as authority can do it, is suppressed. By every burnt book, however, the world is more effectually enlightened; and 'every suppressed or expunged word reverberates through the earth from side to side.' There always comes a day of stern retaliation for such indignities. 'The minds of men are at last aroused; reason looks out, and justifies her own, and malice finds all her work in vain.'* Nay, are not the author's popularity and importance, even at the time, thereby extended and advanced? In one of his works De Foe relates that he had heard a bookseller in King James's time affirm, that if he desired a book to *sell*, he would, if possible, have it burnt by the hands of the common hangman.

The book being thus, as we suppose, burnt, the printer and publisher were next taken into custody, and thereupon De Foe came forward and surrendered. While in retirement he had prepared 'A Brief Explanation of a late Pamphlet,' hoping by its publication to correct the misunderstanding which had led to a hasty censure of his book: nevertheless, he was indicted for libel and sedition, and was subsequently brought to trial on the charge. Bench, bar, and jury were alike prejudiced against him, so that there was little difficulty in obtaining a verdict favourable to his prosecutors. Being pronounced guilty, he was sentenced to pay a fine of 200 marks to the queen; stand three times in the pillory; find sureties for his good behaviour for seven years; and be imprisoned during the pleasure

* Emerson.

of her majesty. In retired durance under lock and key in Newgate, he has accordingly to compose himself as well as possible, and contemplate his prospects. To a man who lately 'kept his carriage,' and is now in a manner ruined, that side of things can hardly present anything very cheering. However, it is consolatory to him to reflect that his misfortunes have befallen him, not as the consequences of his misconduct, but as an unjust and violent infliction from malicious men on account of deeds whereof his conscience can approve. He therefore abates not a jot of heart or hope. The indignities awarded him can neither humble his erect spirit, nor cover his manifest integrity with disgrace.

But now, will the reader endeavour to imagine a warm July day—say the 29th—of the year 1703, and go with us to Cornhill, and see what is doing near the Royal Exchange there? There is rather a great crowd, and much anxiety among certain parties to behold a man who has been largely talked about, and is now expected to be visible, standing in the pillory.

'Fearless on high stood unabashed De Foe.'

He conceives, indeed, that he has not any cause to be abashed. In the calm consciousness of honour, he can brave the jeers and insults of his enemies, and is even protected from their missiles by the presence and activity of many steadfast friends. The ignominy of his situation is all reflected on his persecutors. The very populace regard him with sympathy and interest, and in generous 'fraternity' greet him with triumphant acclamations. Instead of pelting him with stones, they deck the pillory with garlands, and raising a voluntary contribution, in strong liquor purchased with the same, audaciously proceed to *drink his health!*

That same night, too, a 'Hymn to the Pillory' was proclaimed about the streets—a new and daring satire, in which De Foe denounced the injustice and defied the power of the ministry, and boldly vindicated his own integrity. With mingled playfulness and sadness he begins—

'Hail! hieroglyphic state-machine,
Contrived to punish fancy in;
Men that are men in thee can feel no pain,
And all thy insignificance disdain.
Contempt, that false new word for shame,
Is, without crime, an empty name;
A shadow to amuse mankind,
But never frights the wise or well-fixed mind.
Virtue despises human scorn,
And scandals innocence adorn.'

Apostrophising still further this 'State-Trap of the Law,' he says—

'Thou art no shame to truth and honesty,
Nor is the character of such defaced by thee
Who suffer by oppressive injury.
Shame, like the exhalations of the sun,
Falls back where first the motion was begun;
And he who for no crime shall on thy brows appear,
Bears less reproach than they who placed him there.'

Then, in a burst of indignation, he commands the pillory to break silence, and publish forth the facts and merits of his case to all the world—

‘Thou bugbear of the law! stand up and speak;
Thy long misconstrued silence break;
Tell us who ’tis upon thy ridge stands there,
So full of fault, and yet so void of fear;
And from the paper in his hat,
Let all mankind be told for what.
Tell them it was because he was too bold,
And told those truths which should not ha’ been told;
Extol the justice of the land
Who punish what they will not understand.’

The last lines are stinging—

‘Tell them the men that placed him here
Are scandals to the times—
Are at a loss to find his guilt,
And can’t commit his crimes.’

By this discreditable prosecution De Foe was once more ruined in his circumstances. In consequence of his imprisonment, he could no longer attend personally to his pantile works, from which his income was principally derived; and owing to his lengthened absence, they were finally obliged to be given up. By this affair, he tells us, he lost no less a sum than £3500. He had now a wife and six children dependent upon him for support, and was utterly without resources, save such as must be realised by the produce of his pen. In this trying situation his virtue appears to have been put to a rather severe test. It is reported by Oldmixon, that the Earl of Nottingham, one of the ministers who had been most prominently concerned in the prosecution, either went or sent to him in Newgate, offering him the mercy of the government if he would discover who set him on to write the ‘Shortest Way.’ But this was a needless piece of tampering, and was treated with the contempt which it deserved. The same writer observes, that all who were acquainted with De Foe were satisfied that ‘he needed no setting on to put such a trick on a party of whose understandings as well as principles he had no good opinion.’ The calumny propagated by Leslie in his ‘Rehearsal,’ to the effect that he would have made any submission to have been excused the pillory, seems to be entirely without foundation. Alluding to it afterwards, De Foe remarked—‘Till he can tell the world what submissions they were he offered to make, it must stand for one of the most scandalous slanders any man that pretends to truth can be guilty of.’* As the unscrupulous Leslie does not appear to have ever furnished the requested information, the matter stands precisely as it did at the time when his statement was contradicted.

De Foe remained in Newgate for nearly two years. He did not, however, sit down idly and disconsolately to lament his fate. An honest man may even live in prison, and turn his hours to account. Pen and ink were not denied him, nor had he lost the habit or ability for using them. It is true he had to cultivate literature under difficulties; but he nevertheless at this time produced various political works of merit, and also

* Review, iii. 218.

collected and republished a new edition of most of his former pieces. As an occasional recreation, he set himself to study the habits and characters of the prisoners, which he afterwards turned to use when writing such works as 'Colonel Jacque' and 'Captain Singleton.' Moreover, he started a 'Review,' apparently the first that was ever published in the country. It differed materially from the Reviews of modern days, being rather akin to the Tatlers and Spectators which succeeded it, and were partly modelled on its plan. In this work De Foe discoursed from week to week on all the various questions relating to trade, politics, and ecclesiastical affairs, which occupied the popular attention, much after the fashion of Cobbett's Register—the work being also conducted with as much boldness and unflinching energy as ever distinguished Cobbett; while in point of moral consistency and genuine liberality of scope, it was far superior to anything the latter at any time wrote or contemplated. The 'Review' was published without intermission for nine years—during the greater part of the period three times a week, and was exclusively the production of De Foe himself—a feat of authorship which few men (perhaps Cobbett alone) can parallel. Possibly a collection of its best parts, if judiciously selected and arranged, might still be worth the reading. The same remark would indeed apply to several of the author's now neglected writings. His 'Reasons against a War with France' has been characterised as one of the finest political tracts in the English language.

By such a round of occupations as we have indicated, De Foe was enabled to render his incarceration tolerable, and to realise in some degree that fine sentiment of Lovelace—

‘Stone walls do not a prison make,
Nor iron bars a cage;
Minds innocent and quiet take
That for a hermitage.’

Meanwhile, by his unrelenting wit, and powers of argument and satire, he continued to assail and mortify the ruling powers, until at length, it is said, they 'tried hard to enlist him in their service,' and thus silence his opposition. De Foe, however, 'preferred poverty to the shame of serving a cause which his soul abhorred.' He would nowise condescend to release himself from prison by the sacrifice of his integrity; and accordingly he continued in confinement as long as his persecutors remained in power. A change of ministry was at length the occasion of his deliverance. The high-flying administration had so embarrassed and distracted the country, that it became at last a matter of necessity to transfer the government to men of more moderate and enlightened principles. Shortly after Harley's accession to office, in 1704, the queen, through him, became acquainted with the merits of De Foe, and was made conscious of the injustice of his punishment. Desirous of mitigating it, she sent relief to his wife and family through Lord Godolphin, and even forwarded a sufficient sum to De Foe himself for the payment of his fine, and for the rest of the expenses attending his discharge from prison. Mr Chalmers has observed that 'Harley approved probably of the principles and conduct of De Foe, and doubtless foresaw that during a factious age such a genius might be converted to many uses.' Be this as it may, in the beginning of August

1704 Daniel found himself at large, without, as far as we can learn, having stipulated to render any political service to the government.

On his liberation, De Foe quitted London, and went down to the 'Montpelier of Suffolk'—in other words, to Bury St Edmund's, in that county—'a town famous for its pleasant situation and wholesome air; famous also for the number of gentry who reside in the vicinity, and for the polite and agreeable conversation of the company resorting there.'* Here, among excellent and steady friends, he appears to have enjoyed for a while the sweets of recovered liberty. It was, however, only for a while, for, ere many months had passed, certain slanderous 'news-writers' in London had propagated a report that he had fled from justice, and that warrants were out for his apprehension. This was something of an annoyance to De Foe; but to set the matter right, he immediately wrote to the secretary of state to inform him where he was, and offered to go up to London by post, to answer any charge that should be brought against him. In reply to this, he was informed that there was no charge whatever against him, nor had any officer, messenger, or other person received any order or warrant to apprehend him, or was in anyway authorised to disturb him in his avocations. A statement of all this De Foe published in his 'Review,' 'in justice to the government and himself,' as the only course open to him for effectually silencing the slander.

Of the kind and amount of persecution which De Foe endured we can have in these days no adequate conception, much less anything at all corresponding to it in experience. By his political enemies he was not only subjected to perpetual slander and abuse, but was even frequently necessitated to guard himself from violence. His writings were scandalously misquoted, and even reprinted in a garbled and mutilated state, to suit party purposes; his works pirated and hawked about, to defraud him of the emolument arising from the legal sale of them; his property intercepted, and made away with in the most lawless manner; his Reviews were stolen out of coffee-houses, to prevent them from being read; his debts were bought up, that proceedings might be instituted against him; and he was even at last obliged to withhold his name from his works, as the only chance of successfully introducing them to the public. The published attacks upon him were endless. 'Tis really something hard,' said he on one occasion, 'that after all the mortification they think they have put upon a poor abdicated author, in their scurrilous street-ribaldry and bear-garden usage, some in prose, and some in their terrible lines they call verse, they cannot yet be quiet; but whenever anything comes out that does not please them, I come in for a share of the answer, whatever I did in the question. Everything they think an author deserves to be abused for must be mine.'† He was subjected to a similar ill-treatment in connection with many of his personal transactions. The following statement may be given as a curious specimen of the manner in which his conduct was watched and punished even by private individuals. 'On board of a ship,' says he, 'I loaded some goods. The master is a

* Tour through Great Britain, i.; Letter i. p. 71.

† Preface to an Elegy on the Author of the True-born Englishman.

Whig, of a kind more particular than ordinary. He comes to the port, my bill of lading is produced, my title to my goods undisputed; no claim, no pretence—but my goods cannot be found. The ship sailed again, and I am told my goods are carried back; and all the reason given is, that they belong to De Foe, author of the Review, and he is turned about, and writes for keeping up public credit. Thus, gentlemen, I am ready to be assassinated, arrested without warrant, robbed and plundered by all sides: I can neither trade nor live; and what is it all for? Only, as I can yet see, because, there being faults on both sides, I tell both sides of it too plainly.* It needed a brave and steadfast spirit to bear up under long years of treatment such as this; and few things are more honourable to De Foe than the perfect and manly patience with which he sustained so many hardships and vexatious trials. With a gay but yet resolute self-possession, he set his face against the slings of fortune, and, like Luther under supernatural illusion, hurled his ink-stand at the devil!

Some time after his release from Newgate, De Foe wrote voluminously on the subject of the Union then pending between England and Scotland, and thus acquired a measure of ministerial favour which led to his employment in the service of the government. His acquirements and general knowledge, in combination with his acuteness and moral probity, seemed to render him well qualified to undertake matters of delicate diplomacy, and he was therefore sent to Scotland to further and facilitate the Union. It appears that his labours in that country obtained for him general approbation. While in Edinburgh, he took occasion to publish a complimentary poem, under the title of 'Caledonia,' 'in honour of Scotland and the Scottish nation.' In his Review, which continued to be regularly published in his absence, he carefully represented the advantages which would succeed to the Union in a favourable, but not delusive light; and he appears to have exercised his influence and performed his mission most judiciously and beneficially. Writing on the subject, he says—'I have told Scotland of improvement in trade, wealth, and shipping, that shall accrue to them on the happy conclusion of this affair; and I am pleased doubly with this, that I am likely to be one of the first men that shall give them the pleasure of the experiment.' On returning to London, at the beginning of 1708, he was rewarded with a fixed salary and an appointment under government. In the course of the two succeeding years he several times visited Scotland, and when the Union was completed, he published in Edinburgh the first edition of his work on 'The Union of Great Britain.'

Though De Foe had accepted employment under a Tory government, he does not appear to have ever rendered the ministry any service in the way of advocating their expressly Tory measures. He not unnaturally abstained from writing against the cabinet which employed him; but less perhaps from any sympathy with their general proceedings, than from the perception that his former labours had been imperfectly comprehended, and ungenerously received by the party he had designed to benefit. The 'popular cause' of the day had become unfaithful to itself. De Foe desired universal toleration; but it needed only to raise the absurd cry of the 'Church in danger!' to divert the people from the pursuit of their personal

* Review, vii. 490.

and proper liberties. Any one at all acquainted with the history of the period will remember the disturbances and intense excitement occasioned by the proceedings of Sacheverell, who at one time went about London with a mob at his heels, demolishing dissenting meeting-houses; and being unwisely brought to trial by the government, could not be more than nominally punished, by reason of his popularity, and the boundless sympathy which his insensate conduct excited in the public. During the early part of 1710 the nation was almost wholly occupied with the political aberrations and ill-judged trial of this notorious divine. For the time, nothing was so fashionable as discussions on church politics: the very women and children, and even the desolate street-gentry, who might have been supposed likely to remain neutral in such a matter, arranged and paraded themselves in the hostile attitudes of party, vociferously demanding of their neighbours, and of everybody they encountered, 'What side, friend, takest thou in this important controversy?' De Foe has given us a felicitous parody of this astonishing state of things, which pleasantly reminds us of Camille Desmoulins's pithy sketches of the movements and debates of the Palais Royal during the earlier days of the first French Revolution. He says—'The women lay aside their tea and chocolate, leave off visiting after dinner, and forming themselves into cabals, turn privy-counsellors, and settle the affairs of state. Every lady of quality has her head more particularly full of business than usual; nay, some of the ladies talk of keeping female secretaries, and none will be fit for the office but such as can speak French, Dutch, and Latin. Gallantry and gaiety are now laid aside for business; matters of government and affairs of state are become the province of the ladies; and no wonder if they are too much engaged to concern themselves about the common impertinences of life. Indeed they have hardly leisure to live, little time to eat and sleep, and none at all to say their prayers. If you turn your eye to the park, the ladies are not there—even the church is thinner than usual, for you know the mode is for privy-councils to meet on Sundays. The very playhouse feels the effects of it, and the great Betterton died a beggar on this account. Nay, the 'Tatler,' the immortal Tatler, the great Bickerstaff himself, was fain to leave off talking to the ladies during the doctor's trial, and turn his sagacious pen to the dark subjects of death and the next world, though he has not yet decided the ancient debate—whether Pluto's regions were, in point of government, a kingdom or a commonwealth.* Under circumstances such as these, though De Foe never altogether abstained from writing, he for a considerable time remained comparatively quiet—deeming it best to restrict himself mainly to observation, and to await the issue of events.

There are men born into the world who *cannot* rest. They seem to be 'driven by the spirit' into wildernesses of strife, difficulty, enterprise, and ceaseless labour. They must *do* or die. The old Ulysses returns after long years of warfare and adventure from the conquest and desolation of the towers and plains of Troy, and seeks to repose his age on his 'still hearth' in Ithaca, and to live in the blameless dispensation of laws befitting to the people over whom he rules. Much has he seen and known—'cities

* Review, vii. 69.

of men and manners, climates, councils, governments; 'himself 'not least, but honoured of them all;' yet finds that 'all experience is an arch where-through gleams that untraveller'd world whose margin fades for ever and for ever when he moves.' He cannot rest from travel—

'How dull it is to pause, to make an end,
To rust unburnish'd, not to shine in use!'

He counts it vile to 'store and hoard' himself, while his 'gray spirit' is still 'yearning in desire to follow knowledge, like a sinking star, beyond the utmost bound of human thought.' Therefore will he quit again his patrimonial dominions, and say to his brave comrades—

———'My purpose holds
To sail beyond the sunset, and the baths
Of all the western stars, until I die.'

So likewise our hardy De Foe, after reposing for a while in 'easy circumstances' at Newington, ventures forth again on the troublous waters of political contention, with the view of opening people's eyes to the advantages of the Protestant succession, and the danger to be apprehended from the success of the Pretender.

He first of all wrote, 'A Seasonable Caution and Warning against the Insinuations of Papists and Jacobites in favour of the Pretender. London: 1712.' But finding that this, although an argumentative and persuasive pamphlet, did not produce the effect which he desired, he pursued the subject in three other successive publications, all written in that style of keen and subtle irony which he had employed so ingeniously in the 'Shortest Way with the Dissenters.' The titles of the pamphlets, as remarked by Mr Wilson, 'corresponded with the *rusc de guerre* which he played off in their contents:' being—1. 'An Answer to the Question that Nobody thinks of—namely, What if the Queen should Die?' 2. 'Reasons against the Succession of the House of Hanover; With an Inquiry how far the Abdication of King James, supposing it to be Legal, ought to affect the Person of the Pretender. *Si populus vult decipi decipitur*.' 3. 'And what if the Pretender should Come? or Some Considerations on the Advantages and Real Consequences of the Pretender's Possessing the Crown of Great Britain.' In these papers De Foe sought, by a caricatured use of the Jacobite arguments then in vogue, to expose the absurd and dangerous pretensions of that party, and thus to consolidate the interests of the Protestant succession. While ironically urging the people to bring in the Pretender to settle their existing differences, he was in reality ridiculing the folly of such a course of action. Unluckily, neither Whig nor Tory could understand irony, so that De Foe's pamphlets were collectively construed into a libel against the 'glorious constitution,' and he was suspected and represented to be in league with the discarded Stuarts. Worse still, a certain stupid patriot of the Whig connection—William Benson by name—was so totally blinded and bewildered in the affair, as to institute proceedings against the author, with the view of bringing him to trial for high treason. One morning there enters a sinister-looking mortal with a 'judge's warrant,' and carries off De Foe a second time into the limbo of Newgate! Harley, however, interferes—assures

the queen's majesty that this prosecution has been instigated by prejudice and sheer mistake, and succeeds in presently obtaining the prisoner's release. Such, nevertheless, was the importunity of his enemies, that his ministerial friends considered it advisable to certify his acquittal under cover of a formal royal pardon—a circumstance to which De Foe could never afterwards allude without expressions of astonishment, saying sarcastically that he might have been as reasonably accused of being a Mohammedan; and he playfully desired it might be 'engraved upon his tomb, that he was the only Englishman who had been obliged to seek a royal pardon for writing in behalf of the Hanoverian succession.'

All this happened in 1713. On the 1st of August in the following year there were signs of mourning about the royal palace. Queen Anne had given up the ghost, and Elector George of Hanover reigned in her stead. The Whigs were now again installed in the administration, and the government of the country went on—as it happened. That seems to be the peculiarity of a Whig cabinet. Having been connected with the former ministry, De Foe was entirely discountenanced, though he, more than any man, had advocated and supported zealously all the most important principles and political doctrines which the Whigs pretended to admire. His public career was now drawing to its close. He had been a political writer for more than thirty years; the blossoms of old age were springing about his head; the fires of life, which had long blazed fiercely, were fading at length into quiet embers; and so, with a still regret, but with a spirit resigned to the inevitable, he gradually withdrew from the turbulence of political agitation. His spirit is saddened, but not broken; though forsaken and calumniated, he is not cast down; yet the long years of enmity and persecution, whose progress has marked his brow and surrounded his eyes with wrinkles, have left him little either to hope for or enjoy. With a plaintive complacency he can say—

'No man has tasted different fortunes more,
And thirteen times I have been rich and poor.'

Pondering over the manifold ill-usage he had received both from enemies and friends, and mindful of the aggravated misconstruction that had been put upon his acts and writings, he determined, as a final labour, to furnish a defence of his life and conduct; and with that intent began to write 'An Appeal to Honour and Justice.' Thereby he trusted to justify himself before his candid contemporaries and posterity; but ere the work was properly completed, the wearied and overburthened man was suddenly struck and prostrated by a fit of apoplexy. For a time he lay in helpless stupor, and hovering apparently on the brink of dissolution; but eventually his vigorous constitution recovered from the attack, he regained comparative health and vigour of mind and heart, and came back into the world as from the resurrection of the dead.

Now it was that, quitting the thorny tracks and encumbered regions of contemporary party interests, he came forth to entertain society as a popular author for all time. Numerous instructive and amusing works sprung rapidly from his pen, which, like another Aaron's rod, seemed to blossom with unexpected buds of pleasantness. Among these, in 1719, appeared

the first part of the famous 'Robinson Crusoe,' which, notwithstanding De Foe's well-known capacity for producing saleable and popular books, had to be 'carried round the trade' before he could obtain a purchaser for the copyright. Happy and astonished was the publisher when, after selling four editions in as many months, he discovered that he had cleared a thousand pounds by his lucky bargain! The amount of the author's remuneration is not known, but considering the difficulties attending the publication, it may be reasonably supposed to have been nowise very large. The success of the work, however, induced him to produce a continuation, or second part, which was also well received, and obtained as great a popularity as the first. From that day to the present 'Robinson Crusoe' has been a familiar and household book; and it seems no more likely to become obsolete than the use of household bread, or the faculties of the mind to which it is addressed.

We have no space to speak at any length of the great and peculiar merits of this production. The first thing that strikes every reader of discrimination is the easy matter-of-fact character of the narrative. The whole story reads like a reality. The incidents and adventures are for the most part extraordinary—that is to say, are altogether out of the ordinary courses and chances of experience; yet they are so related, so ingeniously and beautifully woven, that the mind feels it difficult to regard them as anyway fictitious or imaginary. Such an air of plausibility pervades the story, that you say at once, 'If this thing were really true in fact, it would be thus, and thus only, represented.' Then consider the boundless extent of details, the vast and various knowledge here cunningly but unobtrusively set forth. What insight into the inventive and constructive powers of man—what extensive and accurate geography—what large acquaintance with the manners and customs of savages, seamen, mechanics, husbandmen, merchants, travellers, adventurers—what knowledge of the surface and productions of the earth, the institutions and characteristics of different countries and races of mankind—what inexhaustible and natural invention! From the beginning to the end, the author seems to write of what he *knows*. He can put a face of *fact* on the most inconsiderable adventure. You would say he has *seen* the things which he describes, and known intimately every character he delineates. Along with the wonderful reality of the narrative must be taken the appropriate and natural reflections by which it is diversified. What a store of worldly prudence—what exquisite illustrations of the mysteries of life and Providence—how calm and benign a vindication of the ways of God to man! Then how fine a revelation have we of the author's sentiments and sympathies—with what generous interest and compassion does he look upon the varied creeds, systems, and opinions of his fellow-beings, and with what just discernment does he detect some presence of goodness in them all, thereby teaching us a kindly toleration, and soliciting us by insinuation to exercise that holy charity 'which hopeth all things!' Here and there too are strains of pathos—gentle and tender as the sighings of a living heart in deep distress, or as the mournful reverberances of winds dying away upon the sea. But the grand peculiarity of the work is its immense display of *worldly wisdom*, its wide and varied representation of the interests, motives, rewards, and considerations whereby men are actuated to their welfare or their sorrow—its deep and

thoughtful lessons of a soul most largely learned in the daily and hourly experiences of human life. This is a quality in the work which is rarely noted, inasmuch as few people read it at a time of life when it would be observable: the impressions of the generality are derived from the throng of interesting incidents, the wild charm of the situation, the fascinating and wondrous *tales* that took possession of their curiosity when that was the only faculty they were desirous of gratifying. But the book is imbued with a deep philosophy of experience. Rousseau was not beside himself when he called it 'a most excellent treatise on natural education.' In the province of common sense there are few things wiser than some of De Foe's maxims and observations. And none of these are elaborated or introduced obtrusively, but arise naturally out of the story, and are brought in, if not precisely in the right place, at least exactly where they would appear, supposing the narrator to have been dealing in actual matter of fact. Then the style of the book, though homely and unpretending, is really beautiful in its simplicity, reminding one of a plain face lighted up with the glow of excellent conversation. Altogether, we cannot wonder at the exceeding popularity of this work, seeing that it is adapted to every understanding, is calculated to excite the duldest curiosity, appeals generously and naturally to the sympathies, and though not devoid of prejudices, nor even of superstitions, is nevertheless, upon the whole, admirably replete with the best instruction, and tends by its pure truthfulness and simplicity to exalt and edify the moral nature, while it seems designed mainly to delight the imagination. If the poet Gray may be excused for his indolent and luxurious desire to be lying continually on sofas, reading 'eternal new novels of Crebillon and Marivaux,' it seems to our fancy that every schoolboy might be far more reasonably justified in saying, what has doubtless some time been the longing of his soul, 'Be it mine to loiter for ever under shady summer trees, and read everlasting volumes of Robinson Crusoe.'

Of De Foe's minor fictions we shall not be able to say much. The most notable are—'The Life, Adventures, and Piracies of the Famous Captain Singleton'—'The History of Duncan Campbell'—'The Fortunes and Misfortunes of Moll Flanders'—'Colonel Jacques'—'The Fortunate Mistress; or, the Life of Roxana'—and 'Memoirs of a Cavalier.' In all these there is the same simplicity of design, the same graphic minuteness, the same prompt invention and unvarying attractiveness—in short, all the qualities that are displayed in a more prominent degree in the author's most memorable production. There is in all the same significant sign of genius—the power of imagining a character within a certain natural range of action and existence, and of investing the conception with that breath of life and individuality which it is the privilege of genius alone to give. They all, however, belong obviously to a period less pure in external manners than our own. Some of them contain scenes and descriptions of profligacy and crime which cannot be recommended to indiscriminate perusal; and though De Foe professes to have, and really has, a moral aim in what he writes, yet it is more than doubtful whether the exciting pictures of vice and passion which he represents will not generally prove more attractive to uncultivated fancies than the moralities he would inculcate. One thing, nevertheless, may be said in favour of these works—they do not outrage

nature or consistency. De Foe's villains never prosper; they find the whole course and force of the world against them; misery walks behind them like their shadows; and in the end they either die in misery, or are reformed through the discipline of a severe repentance. Vice is exhibited only that it may be detested and avoided. Still, Falstaff's observation about the polluting tendencies of *pitch* is deserving of remembrance; and those who cannot handle it without danger of defilement, will always do wisest not to meddle with it.

In any notice of De Foe's smaller fictions, the curious 'Relation of the Apparition of Mrs Veal,' published in 1705, ought not to be omitted. Could a ghost story, under any circumstances, be true, one could not fail to believe this: it seems as plain and indubitable matter of fact as ever passed before one's eyes. The air of credibility in it is astonishing. As Sir Walter Scott says, 'The whole is so distinctly circumstantial, that were it not for the impossibility, or extreme improbability at least, of such an occurrence, the evidence could not but support the story.' One regrets that it should have been published with no worthier intention than that of puffing a dull book which the publisher could not sell—'Drelincourt's Book of Consolations against the Fear of Death.' This work is incidentally spoken of approvingly by the ghost, and the story, as desired, had the effect of creating a large demand for it. The whole thing of course was a bold and indefensible imposition—one of the few transactions of De Foe which we can neither justify nor are careful about excusing, though we do not know that it is a whit more discreditable than any of the innumerable *other* forms of puffery now regularly practised by people who pass muster for very honourable men.

Besides the works already mentioned, De Foe published several other popular productions, some of which still continue in circulation. There is the 'Religious Courtship,' known familiarly to most serious servant-maids, and formerly a favourite companion of their mistresses. 'Christian Conversation' and the 'Family Instructor' have likewise their admirers in certain quarters; and the 'Complete Tradesman' is also now and then republished for the benefit of apprentices who may have pocket-money to invest in it. But by far the most beautiful and interesting of these popular compositions is the 'Journal of the Plague-Year'—a work which is often received as a veritable history, but which is in fact as much a fiction as 'Robinson Crusoe' or 'Captain Singleton.' It is true that in this touching narrative the author has contrived to mingle much that is authentic with the inventions of his own brain; but it is impossible to distinguish the real from the imaginary; and the whole is such a likeness to the dread original, 'as to confound the sceptic, and encircle him with enchantments.' 'So faithful,' says one, 'is the portrait of that distressing calamity—so entire its accordance with what has been delivered by other writers—so probable the circumstances of all the stories, and so artless the style in which they are delivered, that it would baffle the ingenuity of any one but De Foe to frame a history with so many attributes of truth upon the basis of fiction.*' 'Had he not been the author of Robinson Crusoe,' says Scott, 'De Foe would have deserved immortality for the genius which he has displayed in this work.'

* De Foe's Life and Times, by Walter Wilson.

The whole of De Foe's later writings were exceedingly successful, and enjoyed an extensive circulation. While these were severally proceeding in rapid succession from his pen, he occasionally interrupted them to bring out some temporary pamphlet. In a preface to one such publication he alludes to his growing infirmities and advancing age, but holds himself prepared to devote his still remaining days to the advocacy of the public interests. 'I hope,' says he, 'the reader will excuse the vanity of an officious old man, if, like Cato, I inquire whether or no I can yet do anything for my country?'

In all his latter years De Foe appears to have realised a reasonable income by his writings; yet it is melancholy to contemplate him journeying heavily towards the end, tormented with severe diseases, and plundered and abandoned by an ungrateful son, whose despicable worthlessness fulfilled old Jacob's most intolerable apprehension—hurrying down his father's gray and venerable hairs with sorrow to the grave. He passed out of this earthly existence on the 24th April 1731, and his remains were interred in the burial-ground of Bunhill Fields.

We have thus briefly traced the life of the greatest political pamphleteer, and most ingenious, ready writer for the million that England has produced. We have necessarily left unnoticed an immense number of his writings; but we have, nevertheless, seen something of the manner of man he was. It seems to us that he is of a kind who will bear looking at. A brawny, resolute, substantial Englishman: one who, with right on his side, was afraid of neither man nor devil. Not entirely a pacific man, but rather constitutionally pugnacious; and decidedly given to interfere with anything and everything about him which he might fancy to be going wrong. Judging from these two hundred publications, it would appear that he did not particularly cultivate the ordinarily commendable 'talent of silence.' He had very little talent of that kind. He was a downright noisy man; prompt to controvert, contentious, prone to disputation; a perpetual motion of thoughts and thick-flowing fancies, which he had neither power nor disposition to suppress, but of which, on the contrary, he must and would deliver himself. But what he had to say was full of sense and spirit, and therefore worthy of the saying. People listened to him too with more than common attention. There is no doubt that De Foe's influence among the masses was greater than that of any of the political writers of his age. He was the Cobbett of the Revolution. But he was a greater and a better man than Cobbett—a man of firmer principle, and of a larger candour and liberality. He is considerably tolerant: he is a lover of fairness—a faithful respecter and adorer of the truth. The views he gives you have been arrived at by just insight, or at anyrate by a careful examination of the things and circumstances to which they are related.

As a man, he seems to have been eminently sincere in his opinions. Whatsoever he believed, that he boldly professed, and manifested in his conduct without disguise. There is no trimming to party notions, no adroit suberviency, no cunning dodgery to avoid the censures of such as may think fit to take offence, but a direct and manly expression of all he thinks and feels. Honesty is engrained in his constitution. We have

seen how he stood by his obligations in the midst of his misfortunes, and how he strove to realise in his transactions the high integrity which he admired and recommended in his teachings. He is the same man in his life as in his writings. In these he has a keen regard for whatsoever is graphic, interesting, and effective. Though he hopes to instruct, he desires to be entertaining; but in every case he maintains a purpose, and writes for the accomplishment of an *end*. There are few instances in history of so entire a surrendering of a man's self to popular and public interests. He lives, moves, and has his being in one lifelong effort to advance the public welfare. As a politician, all his aims are honest, liberal, and thoroughgoing. In all his endeavours he seeks to *advance his object*, and not himself; and in this respect he is worthy of universal admiration. How immeasurably superior, in this respect, to many a popular champion of later times! His patriotism and philanthropy are not *professional*—are not assumed for purposes of vanity or ambition; but they are real and earnest, and he grudges not to suffer penalties on their account. There is in him an admirable self-abandonment—a prodigal generosity, which sacrifices comfort, interest, and reputation for the sake of a cherished cause that has been conscientiously and deliberately embraced. This, indeed, is the sign of a true patriot—that he will *give himself*, and boast nothing of his devotion; counting lightly of all losses and chagrins, and, if needs be, accepting even Danton's reckless and stern alternative—'Let my name be blighted, if so only the good cause may prosper!' De Foe evidently lived much under a 'blighted name;' but he endured it with a noble patience, and along with it manifold persecutions, exposures in the pillory, and imprisonments—and all for an able and manly advocacy of principles and sentiments whose truth and rightfulness time has since asserted and confirmed. Whoso marcheth in the van of the unborn events, under the contempt and hootings of the faithless, let him courageously hold on along the path of his aspirations—

'My faith is large in Time,
And that which shapes it to some perfect end.'

